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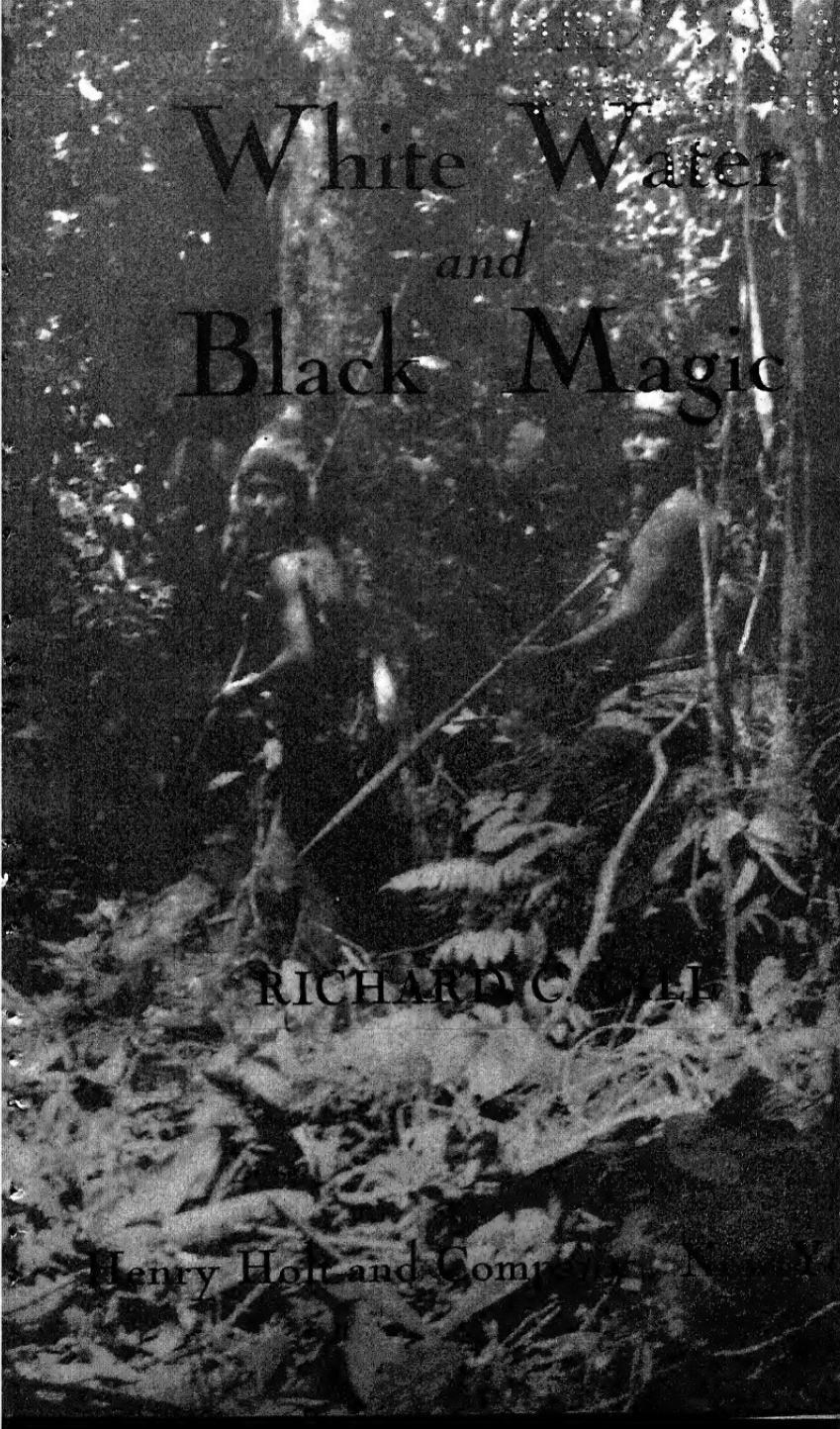
Books by Richard C. Gill

MANGA

THE VOLCANO OF GOLD

KALU THE LLAMA

WHITE WATER AND BLACK MAGIC



White Water
and
Black Magic

RICHARD C. ALL

Henry Holt and Company

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For Ruth .

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The illustrations for this book, selected from the many hundreds taken by the author and his friends, have been placed on the following pages so that they appear in exact connection with the text passages to which they refer. No formal listing or set of captions, therefore, appears necessary.

Preface

The story which I have tried to tell in this book presents a number of problems for its author. Like every important human advance, the medical "civilizing" of curare is the work of a great many people, and I should be sorry if the following pages did not make that fact abundantly clear. Primary credit for the discovery of this drug, which is at once a deadly poison and a beneficent therapeutic agent of an importance hardly second to insulin, goes to the Indians of the Amazon basin. It has been a part of their cultural heritage for an unguessable number of centuries. And so, the story of curare necessarily includes an account of those jungle-dwelling brown men who have known curare and used its black magic as an integral part of their lives since time out of mind.

Most of this book is concerned with the way curare has bridged the gap between the smoke-blackened clay pots of the Amazon tribesmen and the alembics of the modern scientific and medical laboratory. That is the part of the story with which I was concerned at first hand, and the telling of it has involved a partial explanation of the rather unusual experiment in living which the Niña—my wife—and I undertook in our Ecuadorian hacienda on the Pastaza. Without that opportunity to live on the fringes of the jungle and gradually explore both its fastnesses and the secrets of its

people, it would not have been possible to bring a botanically standardized drug back to the scientists.

The part played by doctors and research men in the development of curare therapy is, of course, incalculably important. That story will probably be told more than once in the years to come, as curare comes to occupy the vital place in the medicine of the future which I am sure it is going to take. This narrative does no more than sketch in the outlines, because I am not a doctor and because it had best be told with more authority than mine.

I hope that the reader will find in these pages enough evidence to convince him of one of my own convictions, which is that what I have called "functional" exploring is a valuable thing. The particular corner of the wilderness world of the tropics which I happen to know fairly well still has a number of major contributions to make to civilized society. The jungle pharmaceutics which I have been lucky enough to study off and on for a good many years is not, as a lot of people assume, purely a matter of superstition and primitive quackery. Savages are apt to know a good many things we do not, and their "magic"—which I have tried to explain as a part of their life-pattern—is usually founded upon substantial verity. The function of exploration, it seems to me, is to discover those verities and whenever possible contribute their values to civilization.

North Americans still have many misconceptions about the peoples and lands to the south. One of the greatest pleasures in the writing of this book has been the opportunity to try to remove at least a few of them. Curare would not have reached the hospitals of the United States without the official—and unofficial—courtesy and co-operation of the Ecuadorian government. In more than ten years of contact with its officials I have not experienced anything except the kindest and

most tolerant assistance, in spite of the fact that some of my strange requests and petitions must have been a source of irritation if not consternation to many departmental heads.

Four of my stanchest and most helpful friends deserve special mention here: His Excellency Colón Eloy Alfaro, the Republic of Ecuador's distinguished ambassador to the United States, Drs. Manuel and Juan Cueva Garcia, both lawyers, teachers, and molders of opinion in Ecuador, and my tried and loyal jungle companion, Don Manuel—Rucu Man'l, as his trailmen call him. Without him the discovery of authenticated curare would have been infinitely more difficult. These four men and my other Ecuadorian friends have contributed so much to my work that it is impossible to thank them adequately.

My debt to doctors is equally great. There was, first of all, the able and modest man whom I have called in later pages the "Eminent Specialist." If it had not been for him, I might never have been able to return to the jungle on that final and all-important trip. Just how he did succeed in winding me up again after that nightmare time in Washington I cannot wholly say, but he did it and he has my deepest gratitude. So, too, have all the pioneering physicians who have worked to make curare of constantly greater therapeutic value. Outstanding among this group of farsighted medical men are Dr. A. E. Bennett of the Nebraska State Orthopedic Hospital, and chief neuropsychiatrist at the Bishop Clarkson Memorial Hospital, Omaha, and Dr. A. R. McIntyre, of the University of Nebraska's Department of Pharmacology, who is aiding Dr. Bennett in the pharmacal aspects of his research.

After the generous co-operation of E. R. Squibb and Sons had made possible a large-scale distribution, gratis, of standardized and clinically adequate curare, Dr. Bennett was able to bring the drug's use in the therapy of spastic paralysis

to a definitive point. (What that means only the people who have had firsthand experience with this terrible affliction will be able to appreciate!) But then, with that rare intuitive vision which I call genius, Dr. Bennett grasped another possible application of the drug. Just as this book was being written, he succeeded in demonstrating that its powerful relaxing action can be employed successfully in the so-called convulsive shock therapy for certain forms of insanity.

Such a contribution is hard to overestimate, at least in my layman's opinion. Schizophrenia and manic-depressive psychoses are alarmingly on the increase in our modern society. No particularly hopeful form of attack on these disorders has existed until recently; the situation was one of grave concern to thoughtful people even outside the medical profession. But if, as now seems highly probable, the muscular relaxation caused by an Indian arrow poison, curare, can be used to offset the dangerous drawbacks to shock therapy, there is a new dawn of hope on this dark horizon. . . . To call such a medical advance "important" would be a conspicuous example of understatement.

Much credit for whatever medical value curare ultimately proves to hold will also belong to Dr. A. C. Smith and Mr. B. A. Krukoff of the New York Botanical Gardens. So far as it was possible to do so, they performed the official botanical identifications of the twenty-six varieties of curare plants which we were fortunate enough to bring back, recently, to this country. And in addition, they performed the same service for the entire remainder of our collection of approximately seventy-five botanical specimens.

For some of the actual material of this book I am obliged to a number of other people and organizations: To the *Natural History Magazine* and the *Yale Review*, for permission to use some of the material in the following pages, and to the *National Geographic Magazine*, for a similar co-

operation plus consent to include a number of the photographs which appear later. Though the majority of the illustrations in this book were taken by the author, I owe a number of them to the kindness of friends and acquaintances. And last, but far from least, to a few close and loyal friends, who do not wish to be publicized for it, but who have aided me in these past years in every conceivable way.

The reader is, I think, entitled to one final word of explanation. Because I earn my living, precarious as it may be, from the region and among the people, Indian and otherwise, about which I have written, I have departed in certain minor ways from a strictly factual account of the events of the past few years. For one thing, I have used a number of fictitious place names in talking about the great region to the east—the “inside”—of my ranch. I wish to preserve what is called, in the fine Spanish phrase, the “peace upon my land,” and I am certain that some of my Indian friends would rather have it that way. Particularly if they knew that this “thought-magic-on-paper” is in great part about them. As for the story of this book, the precise areas into which my field trips have taken me is of little importance compared with the things which have come out of them. The adventure has been the pot of curare at the trail’s end, and not the small details of circumstance.

As a matter of fact, in the course of the past ten years we made excursions of varying length and different directions. It has not been easy to establish and maintain friendly contacts with the different clans and tribes we visited in an endeavor to ferret out sound pharmaceutical knowledge from the巫men of the “inside.” And I am sure that all those who travel in the “bush” will sympathize with the reticence I have employed in naming specific places and people.

A certain amount of condensation has also been necessary

in talking about the Indians and our trips among them. The various aspects of the many field trips, long and short, which occurred prior to the last expedition have been merged into the background of a single narrative, as have the events at the home ranch. And although several chapters are devoted to the Indians and their customs, there has not been sufficient space to distinguish between the several central Ecuadorian Oriente tribes except in cases where some specific statement does so.

For the same set of reasons, I have used a few fictitious personal names. But only the names, I wish to assure the reader, are fictitious! The men are not. They are—or were—intensely real and alive. . . .

*Hotel Gramercy Park
New York City
March, 1940*

Chapter One

Just Yesterday

October, 1934.

It looked as if this might be pretty close to the end of the trail. The paralysis had hold of almost all of me, now, and there was nothing to do about it except lie still—the only way I could lie—in my bed and wait for what was going to happen next. The doctor, the Eminent Specialist, would be telling me that this very afternoon, and I forced myself not to think of what he might say. The whole thing was still bewilderingly strange anyhow, like some sort of nightmare second infancy to find myself in the family's Washington house again, in bed, and as helpless as a newborn baby.

Because I could still turn my head, I managed to see from my high window the graceful fall turbulence of Rock Creek Park. Everything was in breeze-filled motion, alive and free. The great sea of autumn-turning leaves dipped low and rose and dipped again as the wind beat down through the creek valley. The whole spread of pulsating color made me think of a huge Incaic robe, woven in the ancient rust-red dyes by the Children of the Sun, laid across a wide plain and tossed with violence by a sharp Andean wind. My thoughts were tossed like that.

They were also like the brittle falling leaves, spiraling and

planing crazily with the erratic gusts of wind. They rose, fell, sideslipped to earth and were lost in the grounded, dry rustlings of a million others.

Then it was three o'clock, the time they feed the animals in the zoo. The sound the wind carried through the park was suddenly the jungle. Faintly the great cats roared, the wolves and coyotes yelped and howled, the larger birds in the huge, arched, outdoor cage screeched. Downstairs—and I tried to rise and stop it—the new clock from the Black Forest twittered its cuckoo three times. But I couldn't rise. Sometimes I forgot that.

I hated that cuckoo clock and the mechanical joyousness with which it marked hours that slid by emptily and with a curious suggestion of greasiness. During the past few timeless weeks, the hours launched by the cuckoo had gone down my private skidway of time as separate things. All greased and all sliding, but sliding more and more slowly of late. And in different directions. . . .

Maybe the cuckoo's twittering wasn't the way to launch them. That might have been it. Or the cuckoo might have tried launching them sideways, as the jerry-built Great Lakes ships were during the last war. *That* was the way to launch hours, sideways so that they'd nearly roll over and send a huge white rolling crest to the other shore of whatever it is you launch hours in. Like the old S.S. *Lake Fugard*, or the *Lake Cobalt* with its Svensk skipper who ranted deep in his fatness about these *verdomt* boys who were supercargos. . . .

After another minute, when I had got over wanting to shout down to the clock about letting the hours roll out sideways, and the animals in the zoo had stopped roaring because the keepers were shoving chunks of meat in to them on the end of long two-tined forks, I thought of another way of making a noise for each hour: If I ever got back to the Amazon country, I would train toucans to make the grave

announcement. The kind of toucan the Quechua Indians called *seco ango*. Not the kind they called *cuilin*. I could remember everything clearly—even the difficult Quechua language.

Outside of the *cucupaccha* birds—the spirit fountain birds—the big toucans were my favorite in all the jungle. *They* wouldn't twitter when they launched hours. I knew that because I had been long in the jungle and had never been to the Black Forest where the cuckoo came from. That, I felt, was thinking it out. The body's all gone, maybe, but the thoughts spiral clearly on. . . .

The last time I had heard a toucan call I was resting in the jungle, in the hills back of my ranch, with young Cicigua, son of the chief of his village. We were listening for a band of giant red monkeys which had been stealing bananas from my trees each dawn. It was the best way of locating them. You heard the adults coughing and barking away off in the jungle. Then you crept up on them, being careful, if you were a white man, where you put your feet while you kept looking up into the tall trees. If you were an Indian you didn't have to be so consciously careful. It made me want to change places with young Cicigua.

When we spotted the band, and had crept up almost to the tree in which they were sitting, eating starch-nuts and dropping down tooth-marked bits of shell, we would start shooting. I used a rifle, of course, or a heavy shotgun loaded with buck. But young Cicigua used his long black blowgun, and blew poisoned darts at them in complete silence. He could always bring down more than I did, before the band scattered and leaped off among the tree vines to hide themselves. That was when I used to envy the Indians. Somehow I could never learn to shoot accurately with the blowgun. Whenever I tried, in the presence of the Indians, young



Cicigua or Curaca Vargas or some other tribesman would laugh. After a while I didn't try any more.

That day, the last time I had heard a toucan call, I was resting in the jungle after having climbed up into the hills back of the ranch to listen for monkeys. Suddenly a single toucan, lost in the brilliant foliage of a towering Fernán Sanchez tree, gave the silent woods his blessing in four clear notes. "Dios te dé . . . Dios te dé . . ." was the way the Spanish-speaking Indians and peons translated the bird's call: "God give thee." It always made me wonder. God give thee . . . *what?* I never knew, for I always thought of something different that God could give every time I heard the call. Sometimes, though, in the peace of the jungle it was hard to think of too many new things every time I heard a toucan.

Then I would transliterate the call into English. "Just yesterd^ay . . . just yesterd^ay . . ." The syllables, the accents, and the sounds matched perfectly.

And either way it was better, I thought, than the cuckoo. The toucan would never twitter when he launched hours. "Dios te dé . . . God give thee . . . or just yesterday . . ." At the moment, lying beside the window and looking out over the twisting leaves of Rock Creek Park, it all seemed to make sense. That sort of remembering—and reading—were now all I had to do for a while.

That afternoon, while waiting for the arrival of the Eminent Specialist who was finally going to tell me when I'd ever move again, and also what parts of me I'd ever move again, the reading hadn't been so good. They had put a copy of a large magazine on my lap for me to look at. On the cover was a Charles Livingston Bull picture of an eagle soaring in freedom over a mountain. When I first looked at it, I had felt choked with pity for the eagle because it might have had *its* wings clipped, too. That worried me, because I wasn't used to morbid sentimentality in my own thoughts. It wasn't until a long time afterward that they told me that sort of thing was part of what happened if your spinal column is too badly injured. I think, though, that was the moment I commenced to get well again—the very moment I started worrying about the eagle, and feeling choked up about it.

I had almost made up my mind about the whole thing when the cuckoo twittered four times, and they stretched me out so that the Eminent Specialist, who had just arrived, could examine me again.

After a while he stopped scratching me with dull pins and holding small tuning forks against my knuckles and hitting my knees and elbows with a rubber hammer, because there was no difference in me between this examination and the one last week. When he had put away the little hammer and the rest of the things, I looked up at him and said, "Well?" I rubbed my chin against the tops of my shoulders

because they felt as if ants were running over them. That's another symptom—one of the first ones they told me about—for I had noticed it almost as soon as I got so that I couldn't move any more.

"Well . . ." he began, and I kept my eyes on his small black goatee while he talked.

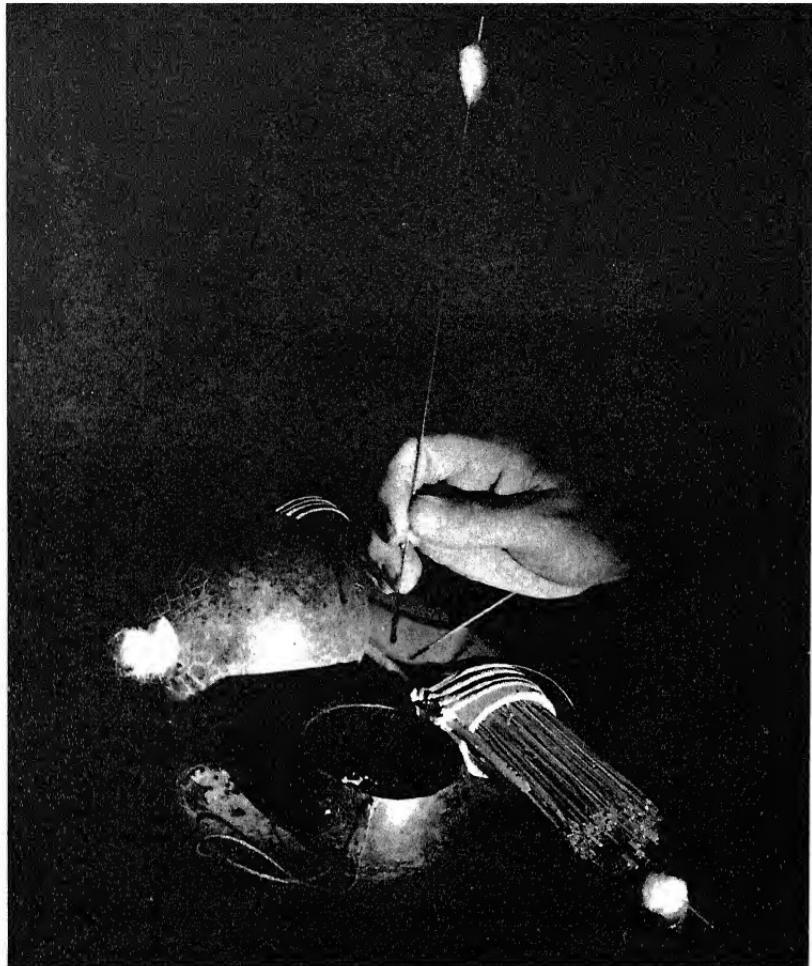
Then, after he had told me about not being able to walk again as I used to, and not being able to use my hands as well, and all the rest of it, he said something which—after a long time—did make me walk again, and use my hands.

He told me that some of the Indians in South America, in the Amazon valley and elsewhere, made a queer, mysterious arrow poison called curare. There wasn't much of it to be had, and what there was, was deadly. It was one of the most deadly primitive poisons known to man. But oddly enough, he said, it had occasionally been used in modern medicine because it had a powerfully relaxing effect and might be used successfully someday even in cases like mine. He would be willing to try it, he went on, if only there were enough of it in the civilized world to be standardized biologically so that safe doses could be gauged; if only it could be produced, even primitively, in batches which didn't vary in potency; if *only*, he kept on saying, we knew more about it.

If only we knew more about curare! For a while the ants stopped crawling on my shoulders and down my arms, where somebody else always had to scratch them.

If only . . .

Why, I had known the jungle lore of curare for several years before, well, before the Eminent Specialist had bent over me to tell me the bad news. Only a few months ago, in the sub-Andean jungles of Ecuador, I had watched a ritual I



had witnessed many times before—the witchcraft-tinctured brewing of curare.

That was just before Chugo, my horse, had suddenly reared in fright one day along the Pastaza Trail and before, as a result, I had needed to know the Eminent Specialist. For a long time before that I had known how to make the drug and had used it myself when practicing with the blow-gun behind the ranch house, when there were no Indians around to smile gravely at me. It had interested me more than any other single aspect of the Indian life that goes on in the great forests.



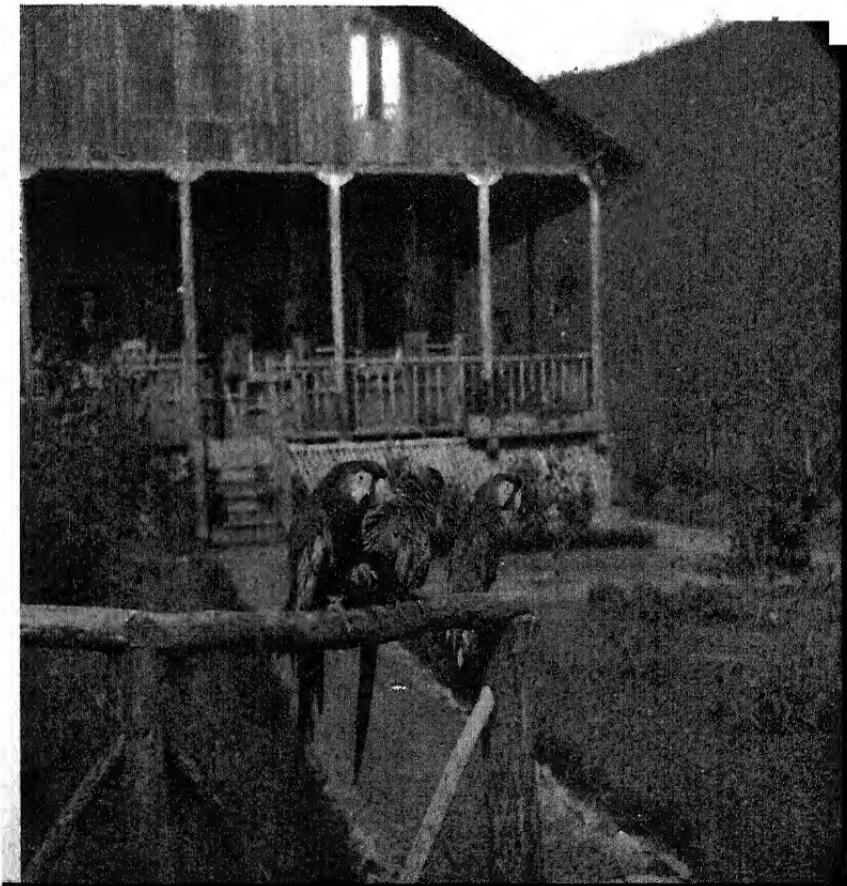
In fact, the last time I had seen curare made, I was saying good-bye, as a *brujo* (witch doctor) in my own right, to my coppery colleagues who made the deadly stuff as part of their daily routine. I was going, I told the Indians, to my own land for the passing of three full moons. I was going to visit with my own tribe in my own village. Then, the third moon having passed over the white-watered Pastaza, roaring in its eagerness to find the Mother Amazon and pour itself into her, I would return to my brothers. I would sail back to them in the *jatun-canoe* of the white man, taking ten days to cross the great *mama-cocha* (the ocean) from my land to theirs. I would arrive again among them, I said, with new magics-of-the-white-man—and new gifts.

But it hadn't worked out that way. . . .

Chapter Two

The Hacienda

Every successful expedition starts from a base of some sort, and the better the base the greater the chances of success. It was fortunate for everything that was to follow that we, my wife and I, had such a superb base in the hacienda on the Pastaza. The minor tropical barony that we gradually built up around it is still the place I think of as home.





We made it, in large measures, ourselves and out of primeval wilderness after the job which I had held for a while in Lima began to exhibit symptoms of an early demise. The depression had set in by then, and there was handwriting on the wall for the South American representatives of big United States corporations. The *mene, mene, tekel, upharsin* was there for anyone to see. So Ruth and I began a romantic experiment in living. We founded a hacienda of our own in the Ecuadorian hinterland, and we worked—hard—to make it the substance of things we had both hoped for.

Christmas 1931.

The hacienda Rio Negro has now been ours for nearly two years. I cannot help feeling proud of it; Robinson Crusoe felt the same way when he tried on his first handmade suit of goatskins. Although he did not say much about it, the Admirable Crichton doubtless glowed inwardly with the same smug satisfaction.

Laboriously, not patiently, we carved the whole thing out of the living jungle. Our chairs and the desk at which I work (I had never made either a desk or a chair before) were growing trees just a few months ago. So were the house, the rest of the furniture, the fences, the bridges, most of the things we have. Everything else has been carried in, a piece at a time, on the backs of mules and peons. Now we even have some of the luxuries: there is a radio, a miniature golf course, an imported stove, a library, an orchid garden. We have installed a hot-and-cold water system, including a tiled shower in the bathroom. I had never realized before what were the hidden deviltries of water pipes. I know now. The system works beautifully. It all starts in a bamboo flume and rushes at you forcefully and hotly out of a nickeled sprayhead in a green-and-white booth. The Indians think it is most foolish. Aside from what magic there might be in the thing, if you must bathe, what is the matter with the various cool streams around? They would be even more healthy and less dangerous, though the whole idea of bathing once or twice a day is bad enough in itself. But perhaps the señora is *delicada*? Yes, that is it. But then, the señor also—well! But I am proud of the place. I made it out of the jungle. You can understand.

Returning to the hacienda from a trip to the capital, we leave the train of the Guayaquil and Quito Railroad, whose route from the coast of Ecuador to the Andean plains is more a Stokes-mortar trajectory than a grade, at Riobamba in the high sierra. There one takes a car and is chauffeured with fitting volatility over a barren, windy pass and down the drops and flying curves of the eastern slopes of the Andes. The thin air of the sierra is cool, but the driver makes the beads of sweat stand out on your face. They are immediately turned into a sort of beauty mask of mud by the dust of the high pampas. You plead with the brown and dirty neck of

the *cholo* (mixed Spanish and Indian) boy at the wheel. First it is an intellectual appeal. You try to make him see the reason for not cutting out the motor and shifting into neutral in the face of a downgrade of twenty-two per cent. The neck is the culmination of a shrug. Perhaps you even catch something of the wake of a wind-driven growl, "Señor, how could you think that I, in whose beautiful car you are, especially when we are such old friends—"

Then you try the emotional side. Cunningly you approach the ear, dirtier, above the brown neck. Between closed teeth and tight lips you whisper to him. "The most daring of all the chauffeurs of Riobamba—old friend—surpassing skill. But in my country, where every fourth person has a car, the really good driver does"—so and so. You gaze equally at the speedometer and the flying cliffs beside the car.

A laugh leaps around the dirty ear, from the grin in front of it. "Well, señor—such old friends—and with so many cars in your country" (he thinks you come from London, between Paris and New York in Italy just south of Mexico on the borders of Chile), "still you would go so slowly—show you real speed—how to drive."

There are, then, two things to do. You can lean back without relaxing and take it philosophically. The poor idiot, product of one-quarter generation of automobiles! He drives as wildly as I would throw a machete. Or if you just cannot do that, it is better to stop the car and take the wheel yourself. This is the more usual procedure. The cholo boy slides out from under the wheel. The brown neck sinks into where its collar should be. The grin straightens out and then droops into a catenary curve. Five hours later, when you are down from the mountains in Baños, our little village and supply base, you may have to explain your unlawful usurpation to the *jefe político*—as you have done several times before. It is really all right, but the señor should get a license.

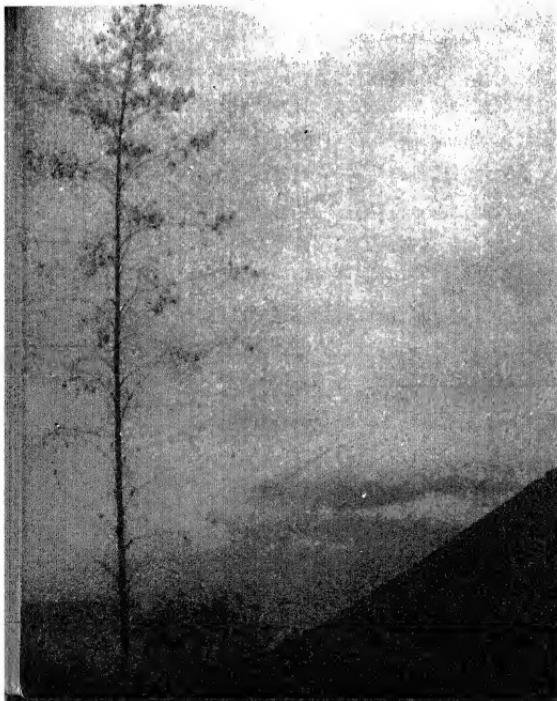


But that's nonsense. A little bribe is less trouble.

The last ten miles of the descent have been along a narrow ribbon of road, North American-made, by the way, cut into the living rock of one of the two great cliffs that wall in a deep and yawning canyon through which the Pastaza River flows. Our hacienda is on that river, but farther down. The road, a line in sharp intaglio, follows the cliff's bold curves midway between the top and the bottom. Looking up on that side, you can see nothing above the upper rim except the sky. Looking down, there is the river writhing and tossing far below. A few more days, and it gives itself to the Amazon, very placidly; it is exhausted by then.



The cliff opposite rises high and gaunt. Its face is eroded fantastically, pocked with minarets and grottoes and trenches. From time to time it has been wiped across by a lava flow, which leaves a nasty scar. Above it—when the road mounts so that you can see—are the last of the sandy pampas which run up the base of the Black Giant, the volcano called Mount Tungurahua, which soars into a perfect cone of eighteen thousand feet, covered with a mantle of black cinders



and capped by snow. It smokes and frets and occasionally sheds copious lava over the countryside. Once in a while it coughs up ashes and scatters them over the crops. This part of the ride has always reminded me of a Doré entrance to hell. You cannot help but feel it as you glide between the mutilated cliffs.

Then you sweep down into the little village. Baños is very picturesque. Its ineffable quietness is a relief after the ride. Lying at the foot of the Black Giant, it has been rebuilt three times on the same site. The people say that they will continue to rebuild there no matter how many times the volcano wipes it out. I cannot understand that trait; but then they have nothing else to combat in life, and the rebuilding is simple. At any rate, they are proud of staying there. Not too prosperous, and very indolent, they will tell you how they defy the Black Giant. It is hard to believe.

We leave the car at Baños, where our animals are awaiting us at the village inn. César Heliodoro Rubelio Paredes de Moncayo, the peon in charge of the animals, comes forth to greet us. Everything about him is eloquent: his bare feet, his rags, his mouth, his white feral teeth, all express greeting. But he does not say anything; he waits grinning before us. There is a ritual.

I turn to my wife, affectionately called Niñita by the peons, and say loudly, "Why, there is César Paredes!"

She affirms my discovery.

César, by custom, then gives the first direct greeting; if he were one rung lower in the caste ladder, a full Indian, he would wrap his grimy hand in his poncho to take mine and kiss it. As it is he merely bows. "Buenos días, patroncito."

"Buenos días, César."

Then, in a rush: "Your Mercy has returned to his land; it has been sad without him. What countries did you visit?"

(He means only what neighboring villages.) "You look well. The Niñita," (the greater the diminutive the greater the adulation), "looks well also. We have brought the favorite mare of the little girl. We have even shod her. All send much health to you. So does the mayordomo. And both cooks. And the vaquero. And the peons. And all goes well in your land. The castor-oil plants have been cultivated, and the peon cook has boils. There has also been born a bull calf which is magnificent. With your permission the mayordomo wishes to name it San Gabriel. Or possibly only Flower of the Woods. He cannot decide."

After a bit, we tell César that we shall leave Baños at dawn, and to buy feed for the animals. Meanwhile he can take charge of the cargo for the mules.

César is eighteen years old and has a woman and two babies in the village. I pay him three dollars and thirty-six cents a month. If he misses some working days owing to rain, for example, I pay him less, of course. For a pound of salt, or a dozen cigarettes, he must work five hours; he hacks at the jungle for fourteen days of ten hours each to get the cheapest pair of leather shoes.

The keeper of the *posada* is glad to see us. So, the meester has returned to his land? Well, it must be wonderful to be a gringo meester and able to travel to far lands. (I had been a hundred miles away, in the sierra, at the capital.) If only all Ecuadorians were millionaires like all gringos . . . There wasn't a gringo who wasn't a millionaire!

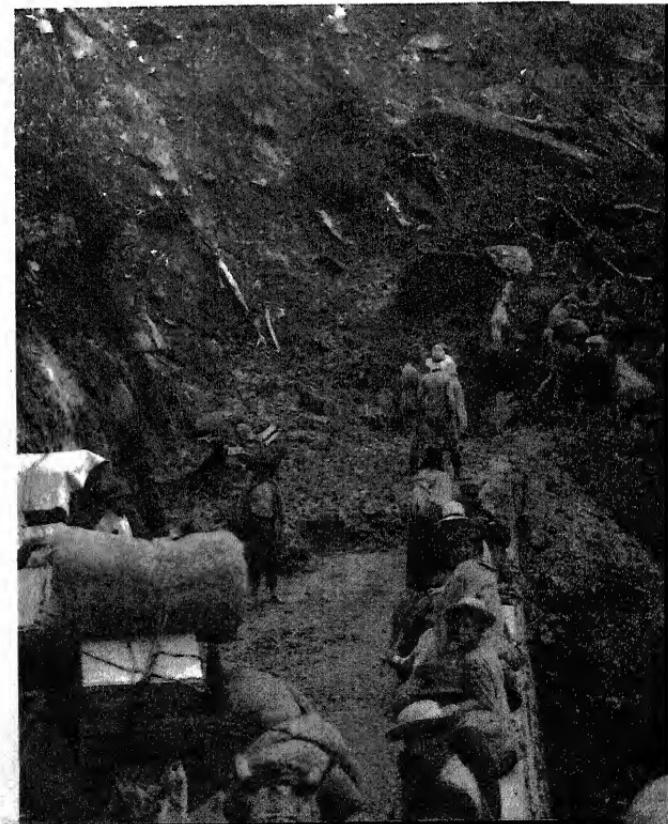
Years have taught me that it is useless to expostulate against this universal misconception. I take the moment to myself. It is nice to be a millionaire, I say.

There are a few things to be bought before going down to the hacienda. In the village store I haggle over the price of a hundred pounds of *machica*—toasted barley flour, the staple article of diet of the peons, eaten as is or mixed with sweetened water. I finally get it for \$1.30.

At dawn César wakes us to tell us that the horses are saddled, below in the patio, and that the mules are loaded. I pay the bill for the night's lodging, receive our host's adiós, and we ride out of the long, covered archway that leads from the inside patio of the inn to the street of Baños.

The automobile road keeps bravely on for five miles beyond Baños, passing the Falls, which plunge half again as far as Niagara, and then it stops, squarely, at the first river. They were going to put a bridge across the river, but something slipped. The girder still hangs there, bent and twisted, from the buttress. Someday, they say, they will fix it. It was an ungraceful act of God that the girder let itself slip.

By 1939, though, the bridge was actually fixed, and the automobile road goes nearly to the ranch. A few months ago, when I was last there, I hardly knew whether to like it or not.

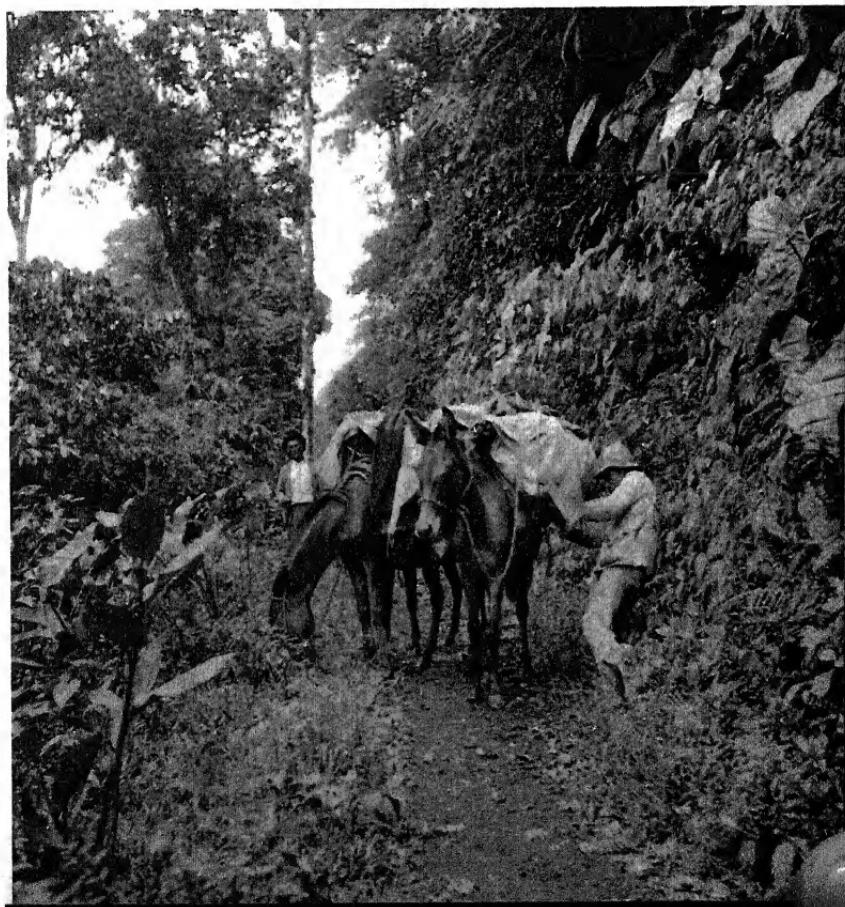




After passing by a little yellow adobe-walled farmhouse and through a grove of coffee trees we ford a rocky stream. Abruptly we are in the jungle.

When you are in the jungle there is nothing else in all the world. Whether it is the first time or the thousandth time you have entered it, there is a moment or so when no other thing exists. You give yourself to it; you relax into it. Indescribably it flows over you and takes you to itself. Possibly you have lain down in the warm sand and water of a shallow stream on a hot day and have been part of the stream and the sand, so that the stream seemed to flow through you instead of merely around you. The jungle makes you feel like that.

The horse trail unrolls itself ahead of us through the mists that have not yet risen. In the still morning air, I catch the smell of the trail and of the jungle. The trail smells as it should, of damp, blackish earth and the animals that passed yesterday afternoon. But the jungle, somehow, never smells as it should. It is a beautiful, lush, vital thing that grows as nothing else on all the earth does. But its smell is of decay and ceaseless death. That comes from the floor of the jungle, where the fallen leaves molder into humus and the ends of the hanging lianas rot as they touch the ground, and what is left of the jungle creatures that die goes back into the soil. It is above the floor that I love the jungle. It has infinite variety, and as you ride you feel that it is alive, though you can see what goes on only by searching intensely.



The soft sound of hoof upon earth is flattened out by the rounded sweetness of the metallic three-note whistles of a band of cucupacchas as they leave the trees beside the trail at our approach and fly into the foliage beyond. They are slightly larger than pigeons, light yellow and tan, and beautiful. Theirs is one of the loveliest sounds in the jungle, a full, soft tuneful whistle. I wish they would not eat our corn; we are constantly having to kill them.

A little farther on, a couple of toucans high up among the creepers are calling to each other in four-tone phrases. They repeat the same cry rapidly over and over and then fly away, their long, inflamed bills hanging straight down. A *guatusa*, like an overgrown tailless water rat, dashes frantically off the trail and down to the river. He need not have hurried so. Directly in front of us, high up on the leafy arch over the trail, a large red monkey, with shiny black leather on the inside of his tail for holding on, stops looking at us and silhouettes himself against the green as he climbs along the branch into the tree. We stop at once, but he has disappeared. Twice we ride over fresh tracks of the spectacled bear.

Occasionally, from our horses, a bit of insect life beneath us comes sharply to our notice but only when there is a sudden stir, just as when one is looking from a skyscraper at the passing currents of people below it takes an unusual flurry in the stream to make one conscious that it consists of individuals. So from time to time we observe a string of leaf-bearing ants crossing the trail, or an iridescent opaline beetle, or a yard-long inch-thick earthworm, or an eight-inch snail.

The bubbling screech of the last parrot to fly across the little open spaces into the darkening trees has died away an hour or so before we reach the western boundary of our hacienda. Some miles back we had had a glimpse of the place, when the trail crossed a high promontory overlooking



the valley. As is our custom, we dismounted there a moment. Our valley—and we had been away over a week! Happily it had not changed, as we had almost feared it would. There was our river, twisting sullenly through the middle of it until it turned sharp right around the base of our mountain. On the right of the water the cliffs rose sharply and grayly to meet the overhanging fringe of jungle. Behind rolled the carpeted hills, range upon range. We could not see where they ended.

On our side we could see the clearings of our lower fields and pasture, a rather stark galvanized-metal roof surrounded by several smaller roofs standing out against the green. That part was always too bad; we had wanted a red tile roof, but it was not practicable. Behind the little buildings, the first low hills rose to form a long, narrow tableland of many cleared acres—their castor-oil plants, we thought, must look superb by now! Then another rise and another cleared mesa. The coffee must be nearly ready for transplanting! And behind the two mesas the eternal rolling hills with forest upon them. Miles and miles of them. They belong to us as much as anyone. On the third ridge beyond the river lives an unmissionaried tribe, but they do not disturb us. Few

jungle people are bad when you know them. They are different from ourselves, and shy, and conventional, but they are not bad.

"Let's get going, no?"

We get going. The valley has not changed.

The big, doughy, amber moon of late twilight has just cleared the cabbage palms on the hills and is confusing itself with the dusk as we ride into our first clearing. A large sign marks the boundary with a legally required American flag and the words PROPIEDAD NORTEAMERICANA. It also bears the quaint and inhospitable legend, "The entrance absolutely prohibits itself."

Here the jungle has been cleared all the way from the hills to the river. The corn is standing starkly. We can just make out the thatched bamboo hut where the peons lived while it was being cleared. The horses want to gallop the last mile. We let them. We want to also.

Hugging the riverbank, we careen down the half-lit trail at a high gallop. The tall fur-coated *chonta* palms and the tree ferns along the road slide jerkily past. The little wooden bridge thunders in the dark as we flash into and out of a shaded dip. The horses pant but will not slow down.

I stand in my stirrups and whistle when we turn from the trail. The dark falls fast; all we can make out are the two bamboo wireless masts against the light sky, above the trees. A flashlight winks. "Yah-hoo!" the peons shout to guide us in.

We dismount into a score of dirty brown hands and excited voices: "You, Leonides and Julian, loosen the *cinchas* and let the animals cool. . . . Angelito, take to the Big House the saddlebags and ponchos. . . . Papacito, remove the spurs." We have to shout to be heard above the other voices—"Que tal viaje, su Merced . . . How was the trip,



your Mercy? . . . the cook has boils—the Niñita, your señora, has gained an *arroba* of weight—new bull calf—much health—your land—much health.” Little round stiff Indian hats are rapidly being lowered and raised with a straight-arm movement like that of an organ-grinder’s monkey.

Dinner with silver candlesticks. It is good to be back. We listen to the radio, and discuss tomorrow, which will be Christmas. Seems funny, Christmas—and our second one on the hacienda. Just then, Salomón, our mayordomo, comes to the living-room door for tomorrow’s orders. There aren’t any; it’s going to be Christmas. I give him a letter from his sister. Thanking me he looks at the radio, and asks, “What now does the machine say, señor?”

“The President of my country is speaking.”

“Ya ve, and how nice of him to call you up. Without doubt you have known him long. And, now, that you pass a good night. I go.”

"That you also pass a good night, Salomón."

Finally, there is the matter of Teresa, the cook with boils. Teresa is the peon cook and lives away from the Big House. I go out with a flashlight to the bamboo bunkhouse. The cook is exceedingly fat, dresses in Quechua Indian costume, and wears layer upon layer of red beads around the lateral folds of her neck. She is also coy. The open cooking fire, in the corner, throws her massive coffee-colored jowls into high relief as she speaks: "Aye, aye—your Mercy—my patrón—your land, your health—your little Teresa suffers—I have boils." The peons gather around to see them. Simply enough, she shows them to us. I mask my consternation with a look of wisdom, and prescribe.

Outside again, I stop a moment. The moon has risen high and is small, hard, shining brightly. It has touched everything. Down beyond the round corral and across the road the river rumbles. I see the outlines of cabbage palms against the sky. The soft notes of a guitar from the peons' quarters come to me mixed with a Christmas carol from the radio. The President has finished. A *chimbillacu*, vampire bat, flits toward the calf barn. I hope he cannot get in. The three dogs, Paco, the big one, Negrito, the middle-sized one, and Firpo, the little one, loll on the ground beside me. Firpo is scratching. I am glad to be back.

Chapter Three

Great White Father

Christmas abroad is a hollow thing, a trumped-up sham, especially in the rural tropics. I suppose it is because the tropics furnish us with none of the material aspects of Christmas which cut themselves so deeply into our memories when we were children—none of the tokens of snowy-white tissue paper and red ribbon that go with our evergreened celebrations. On the hacienda there is too much done by incomprehensibly cheap servants; there is no snow, no evergreen, none of the tinsel knickknacks we always used as decorations, nothing to satisfy our memory images. Still, it is a full, feudal sort of day. Later I am to be blessed by a score of peons and Indians. The Indians will kiss my hand; I feel like a sub-species of Great White Father.

By not looking out the window and by thinking hard of snow we *can* make our Christmas tree with its long, slender leaves seem a bit like fir. It is dazzling with the following ornaments: eight polished brass pack-saddle rings of assorted sizes, the sprays of artificial holly discovered in the second drawer from the top of the spare wardrobe trunk, several bright green lemons, and some red paper bows. It is an elegant tree, and a surprise for the Niñita. The Standard Oil tin, which forms its base, is completely covered with red crepe paper. We all admire it.



The houseboy enters, and sidles up behind me, grinning widely. A peón has been hurt and will the patrón please give him a *curación*? I go out to an extension of the back porch where a built-in closet, beside the toolroom and carpenter shop, holds the medical supplies. Amable Espín, a sunny moron, has received a machete cut on the upper arm.

"How did it happen, son?"

"Cutting cane, your Worship."

I say nothing, but I know that a machete slip, in cutting cane, would not wound the upper arm. Further, it is Christmas, and the men have not been working. We'll find out later. Meanwhile I suture and dress the wound, clumsily. I wince with the boy as the needle passes through the flesh. But there is no one else to do the job. The nearest doctor is two days away, and for one visit charges sixty cents. Also there is the cost of the trip. Amable, a new man, must work five ten-hour days to earn sixty cents.

Amable Espín, his machete cut bandaged, marches off to the peons' quarters looking a little pale. I am a little pale too. But feeling that justice must be done in the matter of the machete, I go over to the quarters accompanied by the mayordomo. The men are sitting and sprawling on their huge bamboo bunk. Fat Teresa, with the boils in the nooks and crannies, is starting the midday meal. Everyone except

Amable is enjoying the *Navidad*. The day is a holiday with pay. There will also be distributed *alfiniques*—brown-sugar cakes—and there will be corn beer called *chicha*. Above all, there will be a feast of goat's meat. The goats are hanging up over the bunk. This is Christmas.

In a few days, when the goatskins are dry, I shall sell them to the peons. They use them as overcoats, for the rainy season, and wear them on their backs—the hair outside—with the skin suspended by a string around the neck. When you see a whole row of shaggy goatskinned backs bent over work in a field, the effect is that of a complete biologic error. The peons take the buying of their goatskin coats very seriously; they cost twelve cents apiece, and are, after all, something of an investment. One man carefully tries on each skin. Like a model at Lucien Clare's, he parades up and down before the rest. They carefully note its details, the way it hangs, its color. Before they finally decide which to buy, you hear them asking one another, "Tell me the truth, Antonio. Does it fit me well? You know I am always careful in such things."

The peons are happy. The *patrón* is good. I think involuntarily of the poorest factory worker in a modern plant. But, then, on some haciendas they quite often receive no wages at all for their work. Other things happen to them also. That is why every week end I turn away men who have made the long trek down from the upper valley hoping to work for me.

I start in to do justice in the matter of the machete cut. Of course, I do not question Amable. He would tell me, but that would not be justice as it is known. Nor do I ask the men directly. The thing is led up to by a series of Socratic questions. The men glance at one another. Each is aching to tell, but none will, not directly. At last the thing is hinted at enough so that I can guess the story. Amable caught Angel Cisneros stealing a package of cigarettes from him. Native



cigarettes, the cheapest kind, cost six cents a package. Amable has to swing a machete half a day in the bush for that. The mayordomo takes Ángel Cisneros out behind the quarters. Justice is done.

On my way back to the house, the vaquero, Manuel Flores, approaches me. I like him very much. He knows a great deal about this region and has good ideas. At present he and his wife, La Encarnación, who does the heavy laundering for

us, make \$8 a month between them. Soon I shall pay them \$9 a month, for he is an excellent hand with the cattle. Recently he asked my permission to build himself a house. I was to furnish all materials, of course. When it was finished, it had two rooms, three windows, a little garret, and a small covered front porch, all thatched with sugar-cane straw. It cost me \$1.80 and remains the property of the hacienda in the event that Manuel should leave us. I hope he will not.

"Buenos días, señor. La Encarnación and I beg that the señor accept this gift for Christmas." There is a patch of bright moving color in his hand.

"But many thanks, Manuel. It is very pretty. Maybe it will live."

But I have already seen that it will not live. For my Christmas he has brought down a gallo-del-monte with his sling-shot. It is called cock-o'-the-rock in English, and is the most brilliantly colored bird I know. Its body, the size of a large pigeon's, is a solid, vivid, deep orange which appears to be burnished; the wings are shiny black to within a quarter of their length away from the body, and the tail feathers are entirely black. An inch-high orange ruff extends from the back of the head to above the eyes, which are a blazing, deep yellow. Even unwounded, it will not live in captivity longer than three days.

The rumpled brilliancy of the feathers in my hand stirs as I look at it. The ruffled head twists to one side, and the yellow flame dies out of the round eyes. Manuel smiles virtuously and I thank him again. Going into the house, I put the bird on a corner of the food bin that is our operating table, and wash a drop of blood from my hands. I wish Manuel had not remembered Christmas.

All day yesterday, while riding down the trail, I had looked forward to climbing up to the second mesa behind



the house. I like it up there. The upper clearings are five hundred feet above the river on a long ridge. There one sees all of the hacienda that lies in the valley, and by going to the edge of the ridge, one can see back over miles and miles of other ridges and lines of jungled hills. Beyond the last line of hills, and to the west, are two snow-capped cones. Once in a while wisps of smoke come out of them.

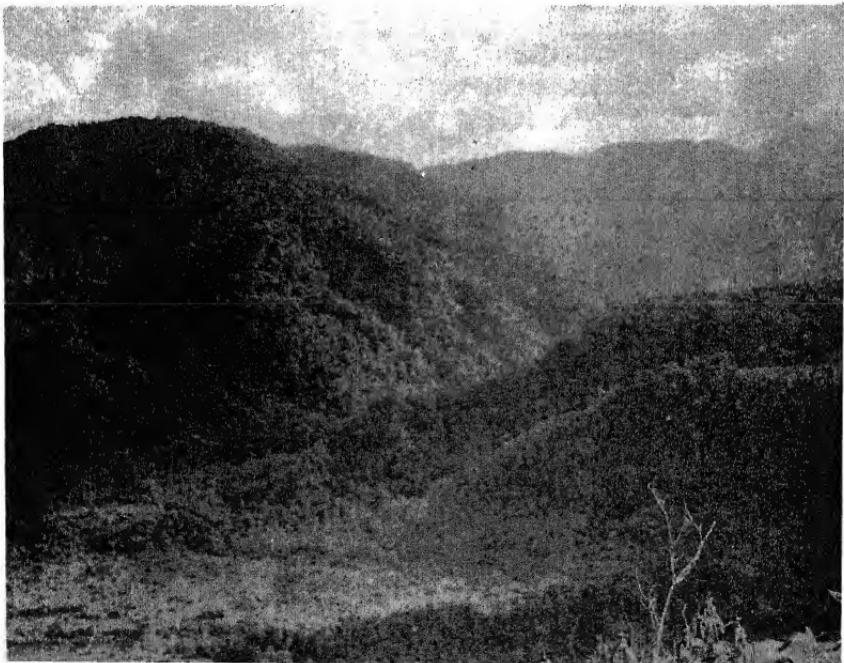
The road up the hill leaves the bottom lands a few hundred yards from the buildings and plunges at once into the shade of the jungle. The first half kilometer is not cultivated; it is too steep. In one place there is a small nursery for coffee and cacao plants under the trees, but that is all. On top of the first rise the clearing commences—long rows of castor plants, from whose seed oil will be pressed. Between the rows food crops are growing—carrots, lettuce, beans, things like that. The soil is very productive, and it should appear beautiful to me. It doesn't; I can see the rotting remains of the felled trees between the growing rows of things. In places it needs cultivation where the jungle is coming to life again, for it has been only half killed so far. It is forever only half killed. If at any time we should let the place go without cultivation for a year, there would be no more castor plants.

Just jungle. Next to the sea the jungle is the strongest thing there is.

Another half hour, and I arrive at the end of the clearing, at the second level, on top of the first row of hills. It is much cooler up here. Corn and potatoes are growing among the rows of castor plants, and the surrounding jungle has less dense brush than below. At this level it is swept by a perpetual breeze blown up from the Amazon. You can smell the thousands of miles of steaming forest in it—not a bad smell.

I take a halfhearted peck at a cucupaccha in the corn, with a .22 rifle. He flies away and gives his three-tone whistle before he lights again in the corn, out of range. If you can imagine three drops of liquid silver making a full tinkling sound as they are poured from a short distance into a metal bowl, you can imagine the call of the cucupaccha.

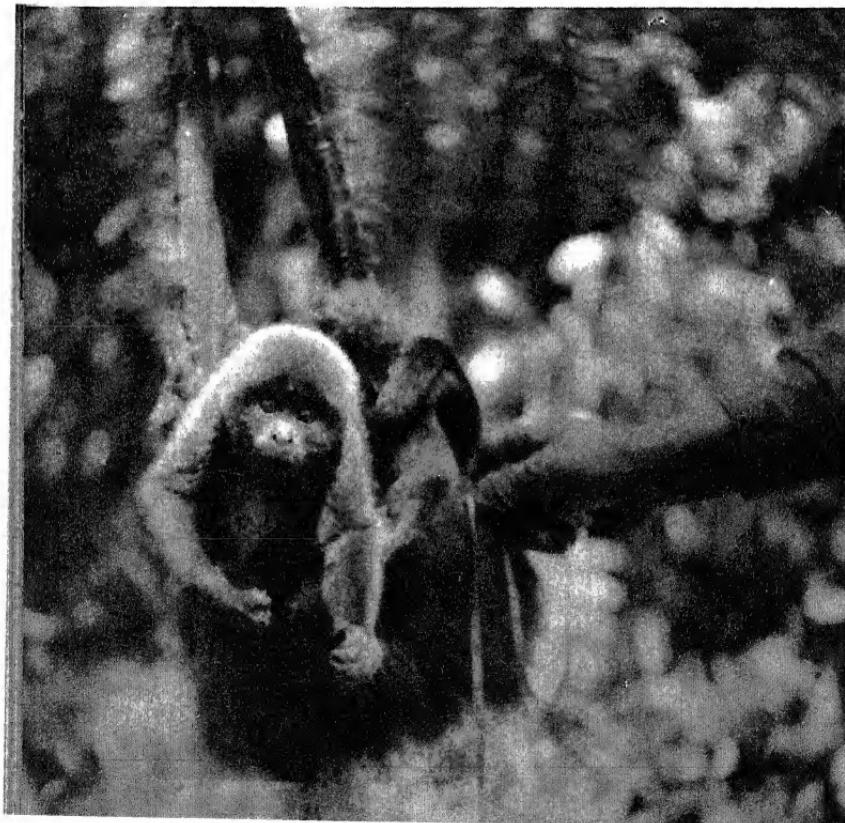
Suddenly I hear a series of little coughing barks in the trees behind the clearing. It is near me; so I immediately stop, standing beside the smooth red-skinned trunk of a *guayavilla* tree. I keep very still; so do the barkers. But I can keep still longer, and in a few minutes there is a little



"hrmph" almost overhead. That, it would appear, means that everything is quite all right. The coughs and barks commence all over again, and the monkeys chatter away to each other like huge squirrels. They never seem to have much fear of man—or else their curiosity overcomes that.

It is a troupe of about forty, I should say, and they continue to eat the starch-nuts, dropping the bits of shell about me. They are dull-red, large, and weigh about thirty pounds when grown. The hands, feet, face, and the inside of the tail are shiny black. They are all around me in the trees, whole families of them.

Moving slowly, I bring the rifle up to my shoulder. Fifty feet away is a mother with a baby. By killing the mother I can capture the baby. That is the way we get tame monkeys. She is sitting upright on a branch. Along the sights of the .22, I see the baby crawl around under the mother's arm



and nestle down in front. She holds it with one hand and puts a starch-nut into her mouth with the other. The baby nestles closer, and a little skinny red arm holds it closer yet. The rifle sights drop of their own accord. I don't want a baby monkey today.

When the bananas mature we shall have to shoot lots of them, though, or maybe we shouldn't miss a few bananas. It may be that way.

When I get back to the house I remember all over again that it is Christmas, that dinner is nearly ready, and that, being Christmas, I must dress for it. Then I feel very elegant as I give the mayordomo his orders for tomorrow while I am waiting for dinner to be served: five men will work on the new mule trail to Zaratambu pasture (place-where-Indians-stop-to-eat-corn pasture); two men will cultivate the second vegetable garden; ten men will cultivate the last



planted castor trees and that they be careful with the machetes; the vaquero will aid to castrate the colt Zaparo; later I shall show you the new coffee nursery.

When dinner is over, and Alice Joy, on the radio, has carried the torch for fifteen minutes to the Ecuadorian jungles, and the voice of Schumann-Heink singing "Stille Nacht" has made it all right again, the porch outside is softly flooded with the swishing of bare feet. Slowly, timidly a window is pushed open from the outside. Politely but expectantly comes the greeting, "Buenas noches, señoras-señores." The vaquero's dark eyes shine in. Other eyes shine behind his.

"Hola pues, hijos, buenas noches . . . Hello, boys, good evening," we say.

A chorus replies, "Happy Christmas, happy Christmas, your Mercies. Feliz Navidad. Viva la hacienda Rio Negro. Que viva pues."

We are ready. A large jug of a certain liquid fire known as *aguardiente de caña* is beside the window. So are many small glasses. The line forms and starts to pass the window. The glasses shuttle back and forth across the sill. The ample Teresa takes the first. She coughs deeply, quivers all over, and would stand to be coy in Spanish and Quechua. She is shoved away. La Encarnación is next. She barely tastes the caña. "God will pay thee, señor," she says. The line passes. The caña is drunk, hands are shaken, sometimes kissed. The line passes again. Then again. The mayordomo, who is neither flesh nor fowl, takes his Christmas drink in the door of the living room. He takes only two. I see to that.

After the third passing, there is no more caña in the jug. The peons feel inspired. They talk among themselves at great length. Finally, the vaquero puts it up to me. Will the señor give them permission to burn up the Old Year now,

tonight? If necessary, they will burn him again at New Year's. But tonight, this beautiful night, he should be burned. Of course, it's not the New Year—but it is a beautiful night of Christmas. I agree.

A dummy, clothed in rags and stuffed with excelsior, is hung up on a crosspiece of bamboo, a few yards from the house, beside the Niñita's orchid garden. A small fire is lit under him, and then he is lit also. He burns well and throws great shadows against the house, over the side patio, over the little stream, and out against the row of palms. Slowly, and then faster, the ragged peons shuffle around the effigy poking with sticks. Their rags and bare feet give a more bizarre effect than if the light of the fire were falling on the bodies of naked savages. Also it is pitiable, as savage dances are not. They shout things about the Old Year burning, and shuffle more rapidly and more wearily around the fire. There is no order, no ritual in their dancing. They simply shuffle. It is not like the glistening brown-and-black reliefs of wild men dancing before a fire. These are only peons, weary of the machete.

Two Indian runners from a tribe three days farther in stand calmly in the shadows, close together. They are clad only in small breechcloths. One carries a blowgun, and the other a black wooden lance. The flickering light plays upon the brown roundness of their bodies, and there seems to be nothing above their eyes, for one cannot see the straight black hair. It is as if they ended squarely, just as they are standing squarely. Soon they leave to sleep beside the peon quarters. They did not smile at the dance.

La Encarnación stands near me, looking at the fire. She took no more than a sip of the caña. Her lips are forming a chant and I listen. It is the "Dies Irae" in Quechua—

Quishpichilla, Jesús Yaya!
Piñai punzha, chai punzhaca,
Ninahuanmi cai pachata,
Cunyachishpa puchucanga.

Have mercy on us, Jesus Savior!
Dreaded day, that day of fire,
When the world shall melt in fire,
Told by Sibyl and David's lyre . . .

"That you have a good New Year, señor and señora," she says to us. "It hasn't quite arrived yet, but it will be here soon. That you enjoy the New Year, señor and señora."

"Many thanks to you, Encarnación. That you also enjoy the New Year," we tell her. She turns away into the dark which closes in as the effigy falls to embers.

The New Year will come soon.

Chapter Four

"Peace Upon My Land"

Ever since we founded the ranch, life on it has been rich and satisfying. As the beginning months fell pleasantly behind us, and we became more jungle-wise, we suddenly found that we had evolved a certain order out of the chaos that had so recently been unkempt bush and wild living forest. The whole place was finally grooved—streamlined, as we learned to say later on—into the never-to-be-ended routine of a self-sustaining wilderness ranch. My life became a nicely balanced round of planting, building, harvesting, hunting, and both amateur and professional expeditionary work. It is still so, when I go back.

But while we are there we are not cut off from the world. Our daily news comes by short-wave radio; our library is replenished at least monthly, and our magazine files are always full. I have as much to read down there as any place . . . and as little time.

Eventually—and I still don't quite know how it all began—the hacienda attained a certain fame. It became a rendezvous for the travel-wise and the travel-weary who had heard of it and wanted escape from the beaten paths. Thus, in addition to the rest of our activities, we came to accept the helpful and lucrative fact that the Rio Negro was South America's

first dude ranch, on however informal a basis. And, after all, it did provide easily, and even with a bit of not-too-usually-anticipated luxury, a cross section of the exotic panorama of the backstage of the tropics.

At the same time field men, naturalist collectors, explorers and prospectors, who had or wanted to find an interest in that scientifically rich region, commenced to make the place their headquarters. In our turn, we freely offered all bona fide research workers the facilities of a perpetual expeditionary base. And the establishment of such a base is at least half the work of any field trip.

In addition to our invited guests, the hacienda is always open to the unpredictable stream of humanity that finds itself traveling the Pastaza Trail for any reason . . . petty commerce and trading, a fear-haunted flight from justice, the feral curiosity of wild men, an expedition into the unmapped and unexploited. Most of the passers-by stop, and



many of them enter; each is received, as far as possible, according to his plane of frontier caste, whether he is an Indian mail runner or a famous explorer, whether he will be accorded the best of the casa grande or will curl up in his own trail-worn poncho behind the peon quarters.

In general, our guests are as frequent as we could wish, as varied as the weather, and as cosmopolitan as a large newspaper: Indians, from lowly runners up through jungle-poised chieftains with their wild retinues, explorers, prospectors, "badmen," missionaries, a stage designer, a librarian, three Brooklyn schoolteachers who had wandered far, half-crazed tropical tramps, several refugees—one a delightfully entertaining bank robber from Philadelphia—one dormant journalist and several who weren't, an amateur Communist who was ill-advisedly going to visit the jungle Indians who are a very practical people indeed, a song writer, miscellaneous scientists, colonists-to-be and colonists-who-had-been, seamy-eyed old-timers with twisted smiles, sun-helmeted first-timers, assorted grades of diplomats, gay South American caballeros whose Andean pacers were hung with silver ornaments, ragged peons asking for work, occasional frontier-stationed government officials, a wartime Ecuadorian army expedition going to protect the too-delicate, never-established, eastern snout of its country's boundary from Peruvian-Colombian jungle bickering, a pseudo-Russian prince and a real one, local and very prying hacendados come to see how the gringos are making out. People who whiffed the vital fragrance of the bush for several days and wrote books about it, and people who spent long, silent years, lost years in unwritten places and couldn't tell you ten consecutive words about them. Petty adventurers and distinguished seekers, both tapping the mystery of the wilderness.

Never before had I realized the possibilities of visitors. They come and go, and talking with them after dinner I



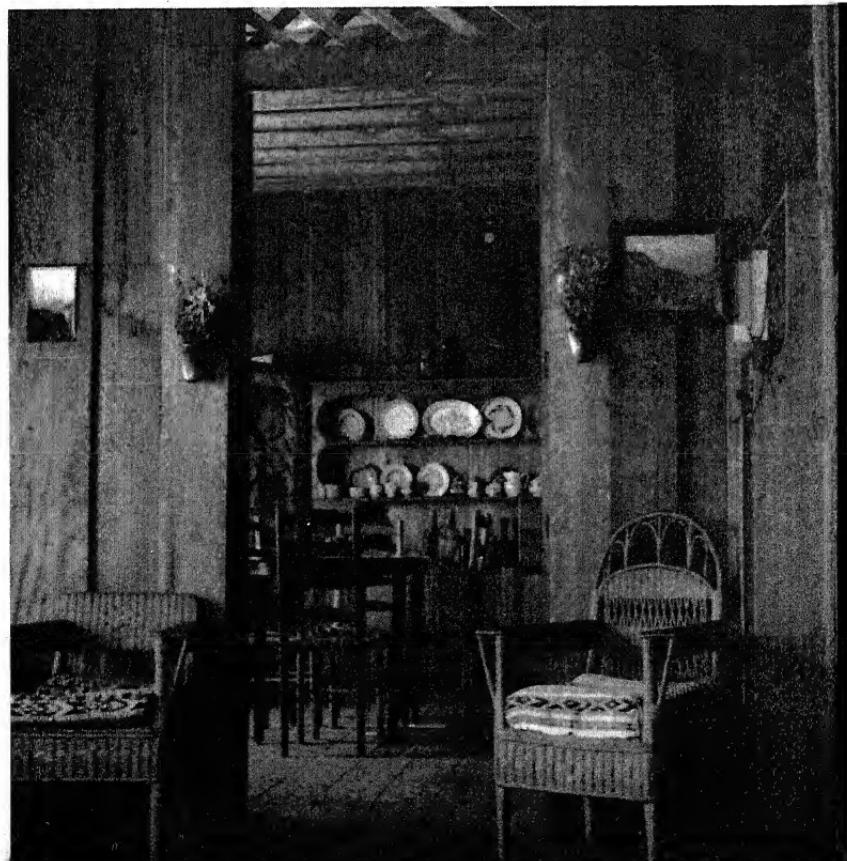
learn plumbing, diplomacy, how to shrink human heads, another way to prune my coffee trees, grade-school pedagogy, the scenic details of a forthcoming Broadway production, how to poison my blowgun arrows, what to do in case of botulism, the ichthyology of the Mackenzie River, cattle bloat, why the minister of Zanahorria was suddenly transferred to Remolacha, what happened that time in Antofagasta when . . . And a big, stipple-faced moon of glowing copper comes up over the river hills, flooding my pastures with mellow-ness to the edge of the dark jungle wall, and pushing me down in my *mimbre* chair until I feel that Broadway, the jungle, and the Dewey decimal system are all one. Which they really are when you look at it that way.

But of all our fascinatingly entertaining and almost destructively informative guests, our Indian friends, the shy, generous wildmen of the inside jungle who have finally learned to come once in a while and camp at the edge of our orchid garden, are the most interesting. I have always liked them, and during the past few years I have been able

to learn more than ever of their mystery lore. I have traded magic with them and been accepted as a witchman of sorts by a friendly chief who efficiently sways a large area just "inside" from the hacienda. I am always delighted to receive them.

Our days are full of work—superintending the peons in clearing and planting the jungle, deciding their disputes, doctoring their hurts—of hunting—of trail riding—but always of fighting the growing, vital, nearly unkillable jungle.

Our evenings are calm, peaceful, away from the world but keeping up with it. We change for dinner, have cocktails, and eat by candlelight from a hand-rubbed *canelo*-wood table. Afterward, in the living room, there are coffee, reading, games, appreciated radio, and when there are guests, conversation that flourishes under the stimulus of the sur-



rounding wilds. And still later on, on the hammocked veranda, when the eternally mysterious night change has swept through the jungle and the things that leap and fly and love and live in the night forests are playing and eating one another, we don't talk so much. We sit and listen to the far night sounds back on the hills, the near-by nickering of the pastured horses, the low strumming of a guitar in the peon quarters. And a Spanish friend is apt to bid me good night with the old-time, courteous formula, "There is peace upon your land, señor."

I tell him good night, and thank him.

Chapter Five

Herbs and Simples, Jungle Style

Two things contributed to my eventual fascination with the subject of jungle medicine. The first was the experience of living in close contact with the Indians, of observing every aspect of their lives, and of coming slowly to understand the nature of their magics and therapies. My own specific work in ethnobotany was ultimately of the greatest importance in investigating jungle remedies, but it would have been of little importance if I had not also been able, for various reasons, to establish friendship and confidence between myself and the jungle Indians. When you are living, as the Niña and I were, in a permanent ranch, the Indians become something more than anthropological curiosities. They are your neighbors, and it is well to have them your friends.

The other thing was more immediate and dramatic. It was an accident that happened to my wife:

Even now, after all these years, I can still close my eyes and see the curling, bobbed hair of the Niña flying wildly as she fell, turning over and over for twenty-five feet through the air, only to land in a crumpled heap on the hard, sun-baked floor of the jungle clearing . . . and remain quite motionless. Whole decades passed in my mind while I scrambled down somehow and stumbled panting to her side.



We had been standing on top of the embankment, watching our gang of peon-sawyers below us rough-hewing canelo logs for sleepers to be used in a new section of the ranch house. It was on one of these ax-squared timbers that she hit her head.

Almost as soon as I reached her the Niña opened her eyes and, failing to utter the conventional groan, tried to get on her feet. The first step showed the folly of that, so the frightened sawyers and I carried her to the ranch house a mile away.

Her injuries, while not too serious, proved to be painful and incapacitating. The egg-size lump on her head could easily be reduced, and most of the long splinters—we counted over sixty of them—could be tackled successfully by first aid, though a few were deeply imbedded and I was appalled by the series of minor operations which would be necessary to remove them. But the badly wrenched knee, with the slipped ligament, left me helpless. I knew that such a thing could be worse than a fracture and that all I could do would be to lessen the pain and have a horse litter constructed, for the long and painful journey “outside” to the nearest medical aid.

I had no sooner mentioned the idea to the Niña, who managed a grimace at the thought, than someone knocked at the bedroom door. It was old Lopez, the head sawyer, a cholo bent and gnarled by fifty and more years of work in the deep jungle.

"Aie, señor, mi patrón," he said, and the sun wrinkles around his dark eyes furrowed with sympathy, "the poor señora, la pobre Niñita, she is badly hurt, no?"

I nodded my head distractedly and recited the list of injuries. His Indian mouth suddenly smiled, like a wide gash in seamy, weathered leather.

"And nothing more than that, señor?" he asked. "Look you, patrón, I have not spent fifty years in Las Amazonas for nothing. I have learned many things from the Indians . . . from the Napos, the Zaparos, the Arajunas, all the great Runiaru people, and even—" he bent closer to me—"and even, mi patrón, from the Jivaros. And you, yourself, know that their brujos are among the best in all the jungle . . . even though they do snick off an occasional head."

I nodded. I already knew the profound respect in which the medicine-magic of the brujos was held by the jungle-wise.

Within a few moments old Lopez had me half convinced. Besides, I wanted to save the Niña the wrenching torture of the litter on a rough trail. When I told the ancient jungle gnome to go ahead, his scarred bronze face seemed to crack in two with a jagged grin. He scuttled off to gather what he needed for the treatment.

In less than ten minutes he returned followed by Teresa, the equally ancient, and I suppose equally jungle-wise, peon cook, who was his special crony. Old Lopez had with him two or three dirty cloth bags of various herbs, a tin plate, a bundle of fresh, thick, green leaves of some sort, and a small amount of kindling. The cook came in apparently

empty-handed, but as soon as she had clucked sympathetically in Napo-Quechua at the Niña and seated herself on the floor beside the bed she drew forth from the hidden recesses of her ample costume the following surgical equipment: a dull and worn kitchen knife, a roll of homespun cotton bandage, a cup of guinea pig tallow, and two live guinea pigs which were in a thoroughly remonstrative mood.

Smiling happily, the café-au-lait Lopez turned to me. "The clinica, the hospital," he announced, "is complete, patroncito."

I turned to the Niña with that questioning look which can be interpreted only by an experienced Other Half.

"I—I think it might be fun," she said. "And if it doesn't help any, we can always go outside tomorrow. And—and anyhow, it's something for the notebook, no?"

Lopez and the cook went ahead.

First of all, after a whispered consultation in Quechua, the old man opened one of his bags of herbs and added some powdered leaves to the guinea pig tallow, which the cook kneaded thoroughly. I offered a prayer to the shades of Lister and Pasteur when the mixture was applied to the sites of the deeply imbedded splinters and covered with the home-spun bandage. They told me it was the world's best poultice. It proved to be. Without the slightest sign of infection, the splinters worked out within twenty-four hours.

. Then came the wrenched knee with the slipped ligament. The two unkempt, black-and-copper heads bent together over the swollen joint, while gnarled, brown fingers explored it with a deftness that amazed me. A few mumbled words, and Lopez and his aide waded in: Placing the tin plate on a block of wood in the middle of the bedroom floor, the old man built a small fire on it with the kindling. In the meantime, Teresa had greased the knee with more of the tallow. Then, as soon as the fire was well lit, Lopez lightly massaged

the knee with a series of painless manipulations which I had never seen before.

Afterward, as soon as the flames of the small fire had died down, he threw a handful of herbs from another one of his bags on top of the hot embers, then rapidly overlaid them with the green leaves he had brought with him. In a moment they were heated through and giving off a pungent, aromatic vapor. He sniffed the gray, curling smoke and called softly to the cook, who came over and squatted down beside the fire with him.

Looking into each other's eyes, they mumbled a low-voiced incantation in the rapid Napo dialect, which Lopez later refused to explain further than that it was "*un rezó de la selva* . . . a jungle prayer, señor, and you can't expect a jungle cure to work without *that*." Meanwhile I had to content myself merely with hoping for the best, leaving the invocations as well as the medical technique to the two bowed figures on the floor.

When the leaves were ready, the two lifted them hot from the fire, rubbed them with more of the tallow, sprinkled them liberally with flaming red *achiote* (paprika), and applied them steaming to the Niña's knee. Then they wrapped it with more of the homespun cloth.

The cook, after gathering up the two live guinea pigs, left without a word, but Lopez stayed behind for a few minutes. Bending over the Niña, and lightly touching her head, he spoke rapidly to her in his own brand of obsolescent Spanish, "Remain here in bed, señora . . . and sleep, sleep, sleep. You will sleep until the morning; then we shall again treat the knee. In ten days you will be well and riding La Coqueta, your mare. The *selva*, the jungle itself, promises it. And that is better than a month in the hospital, no? Now, Niña . . . sleep . . . sleep. . . ."

She slept for hours.



Outside the bedroom door, I asked Lopez why he had not used the two live pigs. "Because the Niña would be very delicada in such a matter," he told me. I nodded affirmatively. I already knew how the little animals are used in such cases. They are rubbed until suffocated against the injured part to "absorb the hurt." Then, when the thing is done in real Indian style, as a brujo sacrifice one has its throat cut over the fire used to heat the medicaments; the other is split open, eviscerated, and applied "as is" to form a ready-made poultice. I agreed with Lopez. In such a matter, the Niña might be delicada. . . .

The jungle elf was wrong in only one thing. The Niña was walking normally and riding a horse within a week, not ten days.

A medical man might reasonably doubt that the incantation part of the treatment assists specifically in the patient's recovery, but be that as it may, you will understand how I was prompted by such a cure as the Niña's to investigate the Indians' *materia medica* along with some other phases of primitive culture. And when my first inquiries led me to a glimpse of their everyday, matter-of-course, so-called magic and enabled me to start jotting down some of their as-yet-unpublished folklore, I felt repaid for the months of arduous prying into the secrets of the jungle's most exclusive caste, the witchmen.

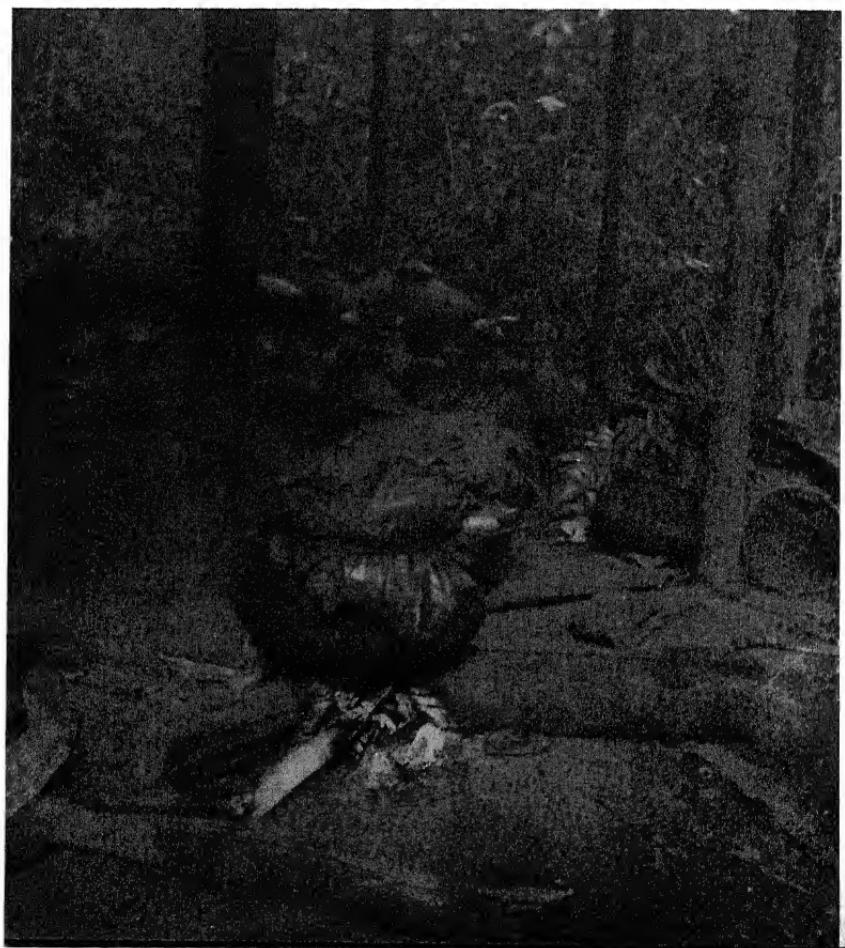
That is the most fascinating and inexplicable aspect of Indian life I have seen. While the drugs themselves are usually simple enough, and much of the physical therapy employed is sound, the whole technique of treatment is overlaid with such a veneer of primitive magic and ritual that it is sometimes impossible to draw the line between the effects of physical and of psychic reaction.

Autosuggestion in the patient, stimulated by the witchmen, certainly shares full honors with the potent jungle pharmacopoeia. At times, uncannily enough, it even seems to accomplish its purposes, whether for good or for evil, without any tangible aid. Or is it that after one has observed the efficacy of primitive medical practice for a while, the modern, sheerly mechanistic point of view sometimes slips a cog when he suddenly finds himself face to face with phenomena that cannot be altogether explained on a physical basis?

The most striking single example of jungle pharmaceutical manufacture is curare, the flying death. Curare is the still-mysterious, extremely lethal arrow poison employed mainly by the blowgun users living east of the northwestern Andes. Although it is manufactured in the most primitive

way and by means of superstitious ritual, modern research has been hard put to it to find a wholly successful antidote to its death-dealing qualities. This is still true, in spite of the fact that curare is now being employed by modern medicine in the treatment of more than one of civilization's most dreadful diseases. Later on, the flying death was to become my chief interest in jungle drug lore. But curare is only one of a score of potent drugs listed in the pharmacopoeia of the *brujos*, the *yachags*, the *sagrás*, and *cucucuna* . . . the witchmen who haunt the vast, tangled greenness of the Amazon valley.

All in all, the jungle gives to the jungle-wise quite a well-stocked drugstore. Every article in it carries the same price



tag, the skill and knowledge necessary to pick it down from nature's shelves. At the very least, the pharmacopoeia of the Amazon is able to take adequate care of all the ordinary ills and accidents which occur among the native jungle dwellers.

Just as interesting as the actual drugs are the methods by which they are administered, and the actual "sickroom technique," the last being almost always in the hands of the witchmen and the tribal grandmothers. Indeed, the Indians' whole system of therapeutics is inextricably mixed with their folklore and their witchcraft.

After all, it wasn't so long ago that our own medicine was deeply bound up with superstition and folklore. Only with the rise of very modern science has the medical art loosed itself from that ancient triad, Mystery, Magic, and Medicine. Our jungle friends, however, still employ that curiously effective combination which, when it is reduced to its simplest elements, is nothing more than a copious admixture of autosuggestion and physiotherapy with actual drugs. And that would seem to be sound medical practice.

In the Ecuadorian Oriente the *brujos* (witchmen) and the *aulas*, or the *apamamacuna* (grandmothers), are the healers, the gatherers, and the dispensers of the pharmaceuticals, as well as the storehouses of the folklore, legends, and rituals with which so many of their therapies are tangled. In this particular region, the witchmen are greatly respected and feared, for both their actual and their nuisance value. Indeed, their sphere of influence is so great that formidable difficulties and obstacles are set before the explorer who wishes to investigate the *materia medica* of the jungle. And the cackling, white-haired grandmothers are, after all, pretty jungle-wise old dowagers. In their unlovely heads repose the wisdom of the ancient days; in some regions where the Inca civilization swept down from the highlands into the



jungle, one finds traces of it still current in the spoken lore of the jungle beldames. In addition, the old women are the tribal nurses and first-aiders, and the mothers of the witchmen.

But the witchmen are the real doctors who parcel out magic and medicine alike from the murky depths of their ancient and mysterious cult. And apart from their medical activities they are curiously potent figures, these jungle magic-men. All too frequently they deal in death as well as in life. In fact, the jungle Quechua word for medicine is the same as that used for poison . . . *jambi*.

The making of the arrow poison, curare, is an example. The naked witch doctor squatting low beside the boiling dark-brown decoction will also—at the same time—attend to the making of curative remedies from the ample stock of life-giving herbs ranged beside his other lethal species. But, at that, the witchman dealing in life and death is, from one point of view, not too far removed from his civilized colleagues in our own modern laboratories who divide their attentions between life-giving drugs and serums for the benefit of humanity and the making of high explosives and poi-

sonous gases for the dubious benefit of this war or the next.

On the darker side of their cult, the Amazonian brujos are past masters of the useful, if sometimes deadly, art of autosuggestion . . . that uncanny form of psychic control which we moderns are just coming to employ as a therapeutic agent. Since the days of Mesmer, and since the coming into good repute of some aspects of psychiatry, we moderns are being relieved of many of our psychically based ills by this means. Here the jungle men have long anticipated us because, along with the administration of their own tangible medicines, they use a complicated ritual of exorcism that is nothing more nor less than helpful autosuggestion.

Potent as jungle autosuggestion is, however, it also has its seamier side, which might be described as a sort of witch-doctoring malpractice. Not infrequently Indians are "bewitched" and made ill or otherwise incapacitated, and it is sometimes said that even death may be caused. Where malicious psychic influence occurs among primitive people, it is quite often referred to as the "evil eye," and in certain Amazonian sections it is also known as the "death-finger." Young children and domestic animals in the Ecuadorian Oriente, as in other regions, are frequently protected from it by means of a red ribbon or string tied around the neck or arm.

In one instance, I was an indirect witness to a death apparently caused by primitive autosuggestion. It occurred at a missionary post a short distance from a certain town on the river Napo: A brujo was incensed by the influence of the missionaries over the neighboring natives. He chose as the martyr who should serve his cause the about-to-be-married daughter of a local Christianized chief, or *curaca*, and publicly announced that she would die at a certain hour. Despite the best efforts of a medical missionary and of her own

kinsman, she died of indefinable symptoms at exactly the time specified. The witchman had meanwhile escaped down the river. . . .

To add to its primitive potency, the autosuggestive power of the witchman is strengthened by a belief in his ability to transform himself into an animal. In this part of South America, tradition and legend give the witchmen the power at will to take the form of a jaguar with the coming of night. The Indian layman believes that this feline alter ego of the brujo can mysteriously attack and devour him, once the death-finger has been pointed at him. There have even been instances of finding the victim's body severely lacerated, as if by the claws of a jaguar, at the ordered time of his death.

This particular kind of animal change is loosely called zoomorphism to distinguish it from the equally formidable term, metempsychosis, which means the passing of the soul at death into an animal body, and is still another curious bit of Indian superstition. The belief in zoomorphism is widely held among primitive peoples the world over, whether their medicine men be called witch doctors, shamans, brujos, or whatever. Oddly, the animal change, invariably associated with regional powers of evil, frequently takes the form of some sort of great cat, a jaguar, a leopard, or other member of the feline family.

Behind the jungle practice of medicine and witchcraft, in both good and bad aspects, lies a vast store of Amazonian folklore and legend which for countless generations has been handed down by word of mouth by the tribal oldsters around the clan fires at night. Delightful legends with disciplinary motifs are told the children; and the elders enjoy the darker tales of the olden days. This semireligious lore contains a whole Amazonian Olympiad, a still unassorted and unpublished hierarchy of jungle gods and goddesses, good

and evil spirits, and strange semimortals. There are even versions of the universal flood legend in which nearly the whole world (the Indian world, of course) perished.

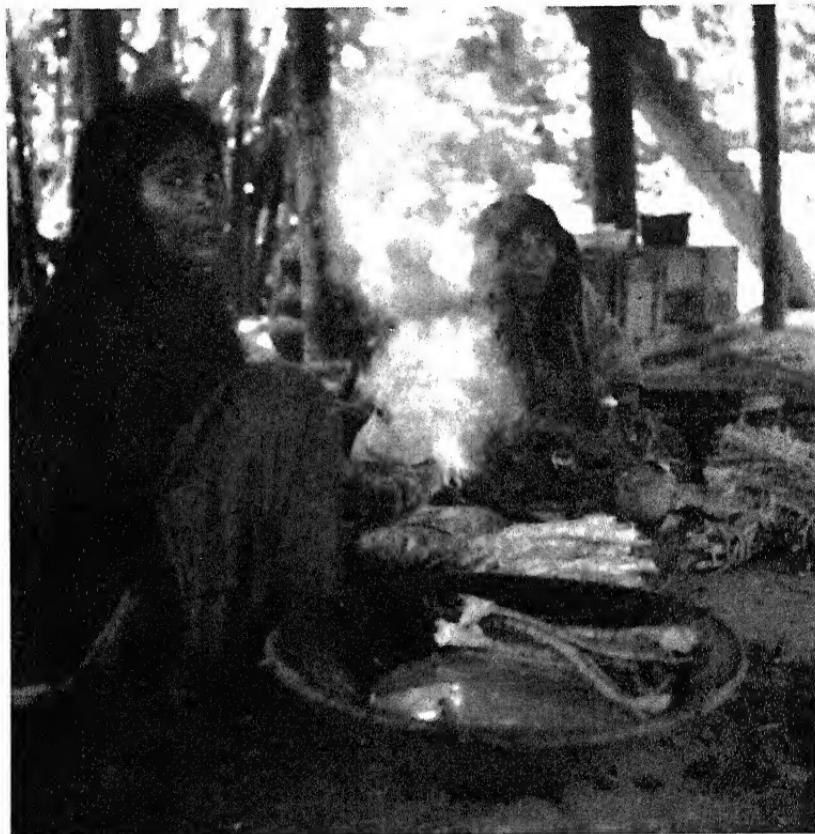
These legends, superimposed upon their *materia medica* and their good and evil magics, furnish the *brujos* not only with their drug and treatment lore but also with their professional ethics. Every wound and illness serious enough to deserve their consideration gets its full share of highly formalized ritualistic magic along with its more tangible treatment.

But, as I review all that I have ever seen of jungle *materia medica* and its shadowy practices, there returns again and again to my mind the picture of what seems to me to be the chief sufferer in the world of Amazonian magic and medicine. It is not the patient but, as in our own modern science, the lowly and ubiquitous guinea pig. Aside from his edible value (from the Andes down to the Amazon roasted *cui* is highly valued), he forms an important part of both the magic and the medicine. He is sacrificed in the different religious, medical and warfare ceremonies, and he nobly gives up his life in the advance of jungle science, as in our own.

He runs the gamut of martyrdom from tallow to talisman; he serves the jungle man from oath-taking to operations, from provender to poultice. As a nourishing broth, as a roasted tidbit, he is delicious; in the form of tallow he is efficacious; when used as a poultice (simply eviscerated and spread out over the injured surface) he is amply fulfilling one of his manifold ultimate destinies; and, when several of him are stuffed into the bed of the patient as a sort of living hot-water bottle, until they smother, he is probably lots of fun and quite a bit of comfort if you happen to be a sick Indian. Indeed, his practicability in my mind is really questionable only when he is used as a sacrifice in certain

consecratory and oath-taking rituals—his small bleeding body grasped in the dark and sinewy hand of an Amazonian witchman.

And even then I suddenly remember that it isn't always wise to question the jungle too closely. . . .



Chapter Six

Jungle Drugstore—No Curb Service

Just beyond the hacienda, at the little forest-walled town of Mera, the Pastaza Trail divides. It spreads out, fanwise, into a jungle-complicated trail system which penetrates north, east, and south into the various fastnesses of a little-known region nearly as large as Texas. This extends from the Colombian border, and the Napo region, in the north, down through the many-valleyed wilderness of the central Oriente to the lower part of the great Jivaro country and the Marañón in the south. It is all called "inside," and it is there that we found out about the flying death and the white water and the black magic.

The region exercised a fascination over my thoughts from the time I became aware of its existence, in my own back yard, so to speak. Almost from the beginning, while the jungle was still being transformed from living trees into a civilized hacienda, my own field work in that territory gradually took shape. Its pattern was changed from time to time, and with my introduction to jungle drugs its scope was finally limited to a type of specialized search. But it took a while to arrange things so that I had sufficient time to devote to field research of any kind. The routine of the ranch had to be so co-ordinated that it would run, for long periods, under its own momentum, whether I was actually there or not.

That it ever did so was in great part owing to the Niña who supervised much of the construction and took charge of all the local details of the dude-ranch end of things. Whether on the ranch or on the trail she was stanchly a good sport and—it seems to be a good word for her—doughty. You're doughty when, with less complaining than an old-timer, you can ride for endless hours in driving rain, and do it day after day. Or merely smile when your dugout is hurled through the mad foam of the Place-where-the-Indians-died Rapids. Or deftly and quickly to see to a hot meal after ten hours of wading through nearly knee-deep mud when, after the first hours, every step is a painful, disarticulating matter of sheer will. Or when you can change a sullen, painted warrior into a grinning, willing campboy. That's being doughty. It's also being a pioneer. The Niña was that way.



In all the field work the Indians are the primary tools. Without them there would be nothing with which to work. On the one hand, every possible aspect of their ethnic structure and culture is observed and tabulated, and every bit of specific lore which might conceivably be turned, someday, into practical, civilized use is chased down, ferreted out . . . and "put in the safe." On the other hand, in order to make those same observations, the friendly co-operation of the Indians is vitally important.

They serve as guides, translators, carriers, *bogas* (canoe-men), campbuilders. They furnish every bit of manual aid necessary in the jungle. Skillfully, irritatingly, usually loyally, they take you and your burdensome equipment—and no matter what they might think of *you*, they regard your equipment as the sheerest of white man's folly—into the deep jungles to their own people. There, if you go about the thing properly, you can carry on as, *el buen Dios sabe*, no stranger would be allowed to among us. You can photograph them (when they most sincerely believe that the camera takes away a very considerable part of their souls), you can ask them questions about their most private lives—questions which would make *you* feel like shooting the man who asked them—you can learn the secrets of their medicine and their magic, and they will offer you, in return, a quaint, bosky sort of hospitality which makes you come to like them greatly. Then, when you are ready to leave, you with their secrets and their lore and they with your cheap cloth and beads and trinkets, they will take you and your equipment out again to the edge of the jungle, skillfully and irritatingly. There they will leave you and disappear into the forest so rapidly that you are left wondering if you really had been among them, if they were really men and pigeon-toed women and dirty babies, and not a dream. Until you read over your notes, and unpack the specimen cases.

My first basic interest in the region was in the making of general and very amateur ethnographic surveys, which I backed up and substantiated to myself with all possible collateral reading and study. Eventually, these surveys—whether of the Indians' weapons, social structure, mythology, music, transportation methods, or what not, combined to form a fairly decent picture of what made the regional red men tick . . . especially when correlated with the apparently factual observations of others. That sort of thing is one aspect of the larger—and abused—field of general ethnology.

Later on, after I had come to have a fair working knowledge of the general lore and life routine of the jungle, I was especially struck with one particular phase of the Indians' highly efficient survival culture (even in addition to the sharp stimulus of the accident mentioned in the last chapter): their whole *materia medica*, using that term in its widest possible sense to include both drugs and technique. The jungle dwellers, wiser in the potentialities of their environment than we are in ours, have built up and made full use of a practical, natural pharmacopoeia. The raw materials of this are gathered directly from the forests and are manufactured and used according to a ritual and tradition inseparable—in their minds—from the drugs themselves.

Despite the fact that much of their therapy is founded on witchcraft and a general, calculated-to-impress-the-dumb-laity kind of hocus-pocus, much of it remains highly practicable and workable. Accordingly, I concentrated my work on learning as much as possible about this primitive drug procedure and—what was most necessary—the peeling off of the overlying veneer of mystery and plain mumbo-jumbo from the actual structure of pharmacal truth. After that it was necessary to correlate what we might call terminal findings in the field with methods for the possible application of those same findings in civilized life . . . in medicine, industry, even cosmetics.

This particular kind of descriptive field work is known as ethnobotany and has to do with the regional names, lore, and uses of plants as illustrative or typical of the customs of a people. Really my actual work goes the usual definition one better, for I am also interested in the final, civilized employment of the primitive plant drugs. That's the hard part, the final bridging of the gap between the jungle and the laboratory. It takes time, patience, money; the very things which are the hardest to come by and keep.

Of course, the Indian population of the vast Ecuadorian Oriente, lying in those regions which parallel the eastern Andes and extending between them and the upper Amazon itself, is divided into many tribal entities with varying customs, rituals, and even languages . . . though, in general, they all use the same basic *materia medica*. They range from the great Runiaru peoples in the north, about whom we know as much, possibly, as about any Amazonian Indians, down through the lesser known folk of the central Oriente to the famed Jivaros in the south.

The northern Indians, especially in the Napo region, have apparently lost much of the fineness and nicety of jungle medicine through too much contact with the whites. Living along the Napo must be, for an Indian, a sort of boulevard existence, for that very sizable river is one of the main water highways from the Andes to the Amazon and is traveled by many people. Although its passage is still a stout enough trip, it is about the shortest and most direct cut from the West Coast to Iquitos on the Amazon—if you exclude flying.

The more remote of the Jivaros, the head-shrinkers, to the south are among the least touched by white influences, despite the fact that certain observers of them—being given more to dramatic zeal than to accurate observation—have made them the most notorious of all the South American Indians. Being so untouched, and so unmoved in their traditions, they consequently have a highly developed witchcraft



and medical lore. But, from the point of view of treating with them to arrange for the production of adequate amounts of any given drug, they are difficult folks. They will be for a long time to come.

Far from being affected by the many surveys, both good and bad, made of their fascinating culture, they are still by all odds the most primitively conservative tribe of all Amazonia. From time immemorial they have never been conquered: not by the Incas, against whom they were even used as allies by certain other tribes, not by the early Spanish conquistadores, and most certainly not by modern white men. In spite of their own feudlike warfare, they hold their jungle freedom above everything else and, latterly, have preserved it by means of a unique form of passive resistance available only to wild men who live in a large and little known wilderness area.

If anything occurs which, even in the smallest degree, they do not like, they simply evaporate, silently and instantly, a whole clan at a time, and disappear into the fastnesses of

the between-river jungles. They may—or, if they desire, may not—be found several days' hard march away. Several days' hard march for a white man. A few easy hours for a Jivaro.

I have seen it happen on more than one occasion. Nowadays they do it with disconcerting frequency—disconcerting if you're trying to work with them—owing to the establishment by both Ecuadorian and Peruvian governments of far-flung jungle military outposts which are likely to do a bit of sniping at each other. The Jivaro is far too seasoned and tricky a warrior to like that sort of thing . . . unless it's his own little war. Consequently, just the appearance of a corporal and half a squad of soldiers, ascending or descending some remote river in a dugout, will cause the head-hunters to pull up stakes and simply not be in the neighborhood with the quiet suddenness of a tropical sunset.

Fortunately for the field work, their *materia medica* is not basically different from that of the other Oriente Indians, and, because of a certain amount of cultural interchange, quite similar to that of some of the central Oriente peoples who are far easier to deal with in a sustained fashion.

So, the wary head-hunters being what they are, the majority of the drug investigation has been done with the Indians of the great central region of the Oriente. Friendly relations have been established with them and maintained on a fair-play and fair-pay basis. I have achieved something of a professional standing as a man-of-magic among them; and I have found two or three remote localities—which I like to think of as my “zones”—for descriptive research. They are ideal in every way.

One of these study regions is about three weeks of jungle travel more or less to the east of my ranch. I have been able to glean more information about primitive drugs from that place than from any other. It is a perfect field laboratory, a

laboratory hundreds of square miles in extent, stocked with samples of more raw drugs than I could tackle in a lifetime, and tended and serviced for me by the Indians themselves. The men and women who are well versed in the ancient lore are my pharmacist's clerks. And among *them*, I work especially with those who might be called the graduate pharmacists of the jungle . . . the witch doctors and the ancient, too-loquacious crones. They, in the main, are the ones who actually compound the plant extracts and make up the potent batches, with that weird mixture of primitive empiricism and straight witchcraft which has come down with them through the centuries.

These particular Indians have behind them an old and rapidly vanishing heritage. They live in an isolated area. Some of them have been driven into it by the ravages, in epidemic form, of diseases which are new to them and against which they have no immunity as yet—measles and influenza, for example—illnesses which with us are not too serious. All of them, for no matter what reasons, keep retiring just beyond the farthest edge of the encroaching white man's civilization. They haven't liked those frontier aspects of it which they have seen.

Their ancestors have always been jungle Indians as opposed to the Andean tribes, who are quite a different people. And those same ancestors, then living in other regions, were exposed many generations ago to the influences of Incaic culture in several ways. As far as we know, they were for a while contributing vassals of that ancient empire, during the course of extended expeditions by the Incas* into Anti-suyu,

* This book being nonspecific in its treatment of the Indians, I am using the word "Inca" loosely; applying it to all the inhabitants of ancient Incadom, not—as would be more accurate—just to the ruling "Incas."

as the eastern, jungled quarter of the Incas' huge domain was called. Quaintly, but with good enough reason, the Incas called their entire empire Tahuantinsuyu, the Four-Corners-of-the-Earth.

These raiding military expeditions probably took place during and after the reign of the Inca Tupac Yupanqui, which ended in 1475 A.D. Although the powerful Tupac failed to subdue the Jivaro tribes with whom his forces came into conflict, many Incan jungle expeditions of the approximate period were successful among other tribes. They had for their objects slaves, feathers, drugs and gold . . . though not for any economic value which might attach itself to the good *curi*, the yellow metal, but rather to use it as a beautiful and precious material with which to work.

The Children of the Sun called gold the-tears-wept-by-the-sun, and it was sacred to Inti, the great, beneficent Sun himself. It was never stolen, or used for barter or as a medium of commercial exchange. Stealing, as we know it, started in Tahuantinsuyu only after the coming of the conquistadores, who stoutly introduced the Incas to the combined and fiery glories of another God, civilization, and an up-and-coming value for the Sun's yellow tears.

The Incas established fortified places in strategic passes on the Amazonian side of the Andes, and also, as far as we know, maintained small outposts far into the sub-Andean country itself. Further, as they had done with complete success in the high Andean plains, they succeeded in a small way in introducing their officially adopted language, Quechua, into certain upper Amazon areas. There one can still hear, not the corrupt and broken Quechua of the mountain Indians from Colombia down to the Aymaras of Lake Titicaca, but the isolated jungle survival, pure and vital, of the complicated and noble language of the ancient Incas' subjects.

Curiously, these Indians, who speak the purest Quechua, do not know their traditional language by that name. The word "Quechua," leaves them blank and staring. When you ask them what *is* their language, they always reply that it is *ñuca shimi* (*our—or the—language*) . . . or just that it is *rimai* (*the voice*) . . . as if there were no other language. And they look at you with suspicion when you ask them, for they have never thought in all their lives that there could be another means of talking save *the* language or, just, the voice.

And so even today, in a few widely scattered and isolated jungle regions, there are living remnants of Incaic culture.

Our favorite zone is one of those incredible areas. Despite the fact that it has occasionally been penetrated by far-wandering traders, and more recently by soldiery, it has somehow—at least as far as the records go—been skipped by formal expeditions. Owing mainly to the topography of the region, which makes certain jungle routes lead around it rather than through it, most of the men who make field trips in the Oriente have by sheer accident skirted around our zone rather than working directly in it. It has apparently never been explored scientifically, at least not by anyone who has been descriptively articulate about his work and findings there. In fact, the only record I can find of any scientist's having observed the region for any reason dates back to 1860, when a certain botanist, then famous on both sides of the Atlantic, recorded his having passed through the territory on his way out to civilization from quite another part of the Amazon valley.

In all this I do not mean to imply that our zones, or similar regions, are more difficult of access than other parts of the great wilderness which forms the backyards of the north-western republics. They are not. It is simply that they have been overlooked.

On the other hand, both the tedium and the dangers which are a natural part of all jungle travel have to be overcome successfully in order to get there, as well as any other place. As an example, one of the last expeditions which headed in that general direction—I was not able to find out where it intended to establish itself—was led by two young German fieldmen. They were well and carefully equipped, I imagine, for they had fifty cases of cargo. Fifty porterloads, enough for five small dugouts or three large ones. But, in descending the vicious white-watered cataracts at the head of canoe navigation in one of the several small rivers down which it is necessary to travel, their whole flotilla of canoes came to sudden grief in a treacherous maze of foam-covered rocks. The same spot which gave my own last expedition an exceedingly tough passage. Forty-odd of their equipment cases were never found. Neither was one of the two leaders.

As one of their erstwhile carriers quaintly put it to me a couple of years later: "One white man found himself drowned. One white man found himself crazy. He was the one who lived. When we led him out, his hand in ours, he was like a *hua-hua*, a baby who has not yet learned to speak."

Or, as a further example, while I was arranging for some drug research in the States recently, in fact, while I was writing the first chapters of this book, it was suddenly necessary to procure some additional sample herbals from the neighborhood of that particular region. I arranged for one of my own native fieldmen to make a hurried trip "inside" for me. All I had to do was to exchange an air-mail letter or two with him, since I wanted only a duplicate specimen. It was one time when my end of the thing was simple enough. I merely sat snugly in the Hotel Gramercy Park, in New York City, and typed out some directions.

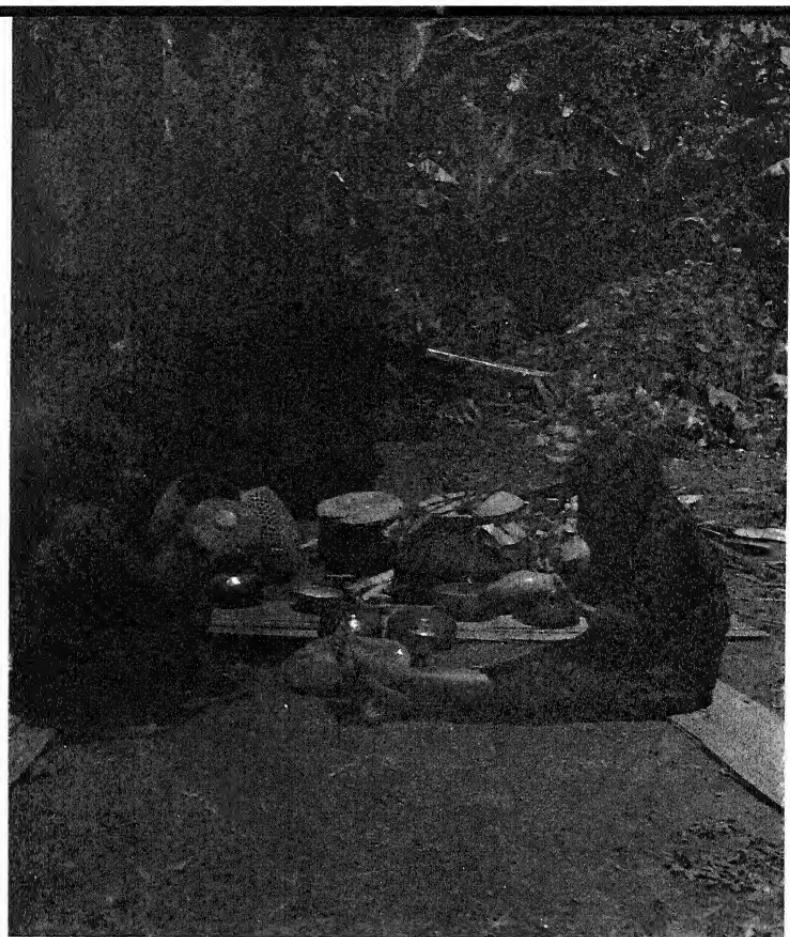
But for Don Manuel—or, as his Indians call him, *Rucu Man'l*—it was very different. He is a past master of jungle

travel and the most reliable and loyal man with whom I have ever made a trip. After he received my letters he needed four long grueling months to get in and then out again. Not until he got out again did I learn that his group of three canoes had been wrecked in still another stretch of bad water on the way inside. His only companion, other than his Indian canoemen, had drowned.

I, comfortable and far away, could imagine the whole scene when I finally received his report, just before the herbals arrived, written simply and briefly in his quaint archaic Spanish. He had found his companion's body and buried it in the bush just beyond the hard white gravel beach. Then he had made his upset Indians rescue and dry out what they could of his precious food. After that he had kept on into the jungle to complete his mission. In that same report he enclosed a sample of colored beads and took as much space as he had used to tell me about the accident to explain to me that these beads were greatly in favor among the Indians of the region and that I should bring a lot of them down with me when I return.

That story exemplifies one of the reasons why I think so much of Don Manuel, and it also explains why our zone is not as yet a tourist center.

In any event, a startling amount of the life routine of the Indians in that remote and usually peaceful area is carried on quite as it must have been when they were vassals of the hard-bitten Andean warriors of Tahuantinsuyu. And now when I go among them—having passed the trails and the white water—I feel that centuries have been torn away from the world like leaves from a calendar. Sitting before a clan fire at night, listening to the gravely wise talk of the waning oldsters or discussing the latest wrinkle in jungle witchcraft with a painted practitioner of that black art, I feel that I am in another world. A lost world, which indeed it really is.



As I go from scattered clan to clan, I see the women making fragile pottery in the same shapes and by the same methods used four hundred years ago at the end of a vanished civilization. And they paint their earthenware with those distorted Incaic designs whose original meaning has long been lost to the present-day Indians. In another house certain roots and clays have been gathered, and I see that some of my own unbleached muslin trade-goods cloth is being dyed with the allegedly lost, rich rusty-red of the ancient Andes. And at night the tales they tell—and still believe and rather hope that I do too—are a queer inextricable mixture of jungle folklore and purely Incaic legends.

The things which interest me most, of course, are their drugs and their manners of preparing them. Many of them, I think, are definitely Incaic in origin and have been used generation after generation by the jungle folk, in a curious blending of their own and that more ancient pharmaceutical technique.

After all, some of our own most important and helpful modern drugs have been evolved from—in other regions—that same blend of jungle lore and Incaic medicinal skill. Quinine is one of them, and so is copaiba. Another—there is an impressively long list—is cocaine, which the ancient dwellers of the Andes used as both an anesthetic and a narcotic some centuries before we did. However crude their use of the coca leaves might have been, it nonetheless aided them in the delicate operation of trepanning the skull, in which, surprisingly enough, their mortality rate was apparently no higher than was our own until near the beginning of the present century. .

So, for me at least, it is a region of timelessness and modern romance. It is still part of the great untouched. When I make camp there, and with friendliness and gifts of small mirrors and combs and spools of bright thread delve into the existing remnants of the medicine mysteries of a long lost and great people—and think that I am in some small way bridging the centuries between the jungle and the “men in white”—I feel that I am part of two worlds at once. I like the bush, and the grave, friendly, jungle men, but I am always glad to get back again for a while to the forced-draft stimulus of our mechanical northern civilization. Sometimes it is as long as several weeks before I begin to miss the green peace of the forests.

Chapter Seven

"Where No White Man Before . . .

Almost more than any other part of it, I suppose, I miss the shy, usually gentle Indians, frequently irritating, usually not too dependable, dirty, often drunk, and always unashamed. They are lazy, furtive, lovable, and they seem to haunt rather than merely live in the vast Green Mansions which extend for a good three thousand miles back from the study window of my ranch to the far Atlantic coast.

But however friendly and hospitable they are when you at last come to know them, they instinctively distrust all whites at first. Their reasons are excellent. Afterward when their confidence has been gained and you understand, and adhere to, a bit of their own ethic when you are in their own bailiwick, they are loyal and dependable companions-at-work—within their limits.

The Indian distrust and fear of white men in general is based on several centuries of experience with that almost invariable misuse of all the so-called lesser races by the whites who have gone among them. What has happened in the Amazon country is, of course, only a small but typical example of what has gone on in every primitive part of the world which has been exploited under the triple threat of commerce, religion, and territorial conquest. Sadly enough, and certainly obviously enough, it all seems to be necessary.

Even the Indians grasp that much after a while. They seem to realize that it is the only way that civilization and modernity can march among them and consolidate and hold its gains. But when they accept it, and give themselves to it, they are inevitably a squalid and dying people. There is no halfway mark for them.

The greatest single tragedy which ever befell Amazonia was the rubber boom, or rather the unforgettable methods used in the exploitation of the Indians. In rubber, as in nearly everything else coming out of that tropical wilderness, the red men were the actual living tools with which the white men worked.

Many of us can faintly remember the wave of promptly suppressed international indignation which swept over the civilized world at large when Sir Roger Casement, later executed as a spy in the Great War by the British government, investigated the activities of the rubber concerns which then operated in the Amazon valley. They were incorporated variously in Peru and England, and were very influential. But the atrocities ascribed to the Belgian Congo during its slightly earlier rubber boom were sunlight and gold compared with the happenings along the shadowy banks of the Putumayo, the Marañón, and other rivers which wind their way through that tortured land.

The books and articles which were printed, and the published findings of Casement, Paternoster, Dickey, and the others who risked their lives to investigate the necessity for the wholesale murder of many thousands of Indians, are long out of print, except in the instance of Dr. Dickey, and copies of them are already yellowing with the years. The old-style rubber gatherers themselves are dying out, though only a few years ago I talked with one—wealthy and long retired—whose proud, aging boast was that he alone had been responsible for at least five thousand Indian deaths. . . .

Under the stress and impact of greater and more recent—though oddly similar—events, the outside world has long forgotten the reporters' stories of torture, mutilation, and mass murder. But in the jungles before the night-fires the children and grandchildren of those same scattered tribes still tell the bloody tales of those years of horror. This is only one of the reasons why a white man, entering new territory, has to be known and judged for quite a while before he is accepted by the Indians as anything better than a constant, possible peril.

The hard-handed cruelty of the old rubber days is only one example. There have been numberless other happenings since the first hardy invaders of the New World commenced to think of it in terms of gold and barter. And I suspect that as long as there are wild men living in desirable territory they will be exploited one way or another by the entering white men. By the traders, the soldiery, the missionaries, the wrong kind of concessionaires, and all the others whose only—but very necessary—objects are the perpetual and ruthless forays of civilization.

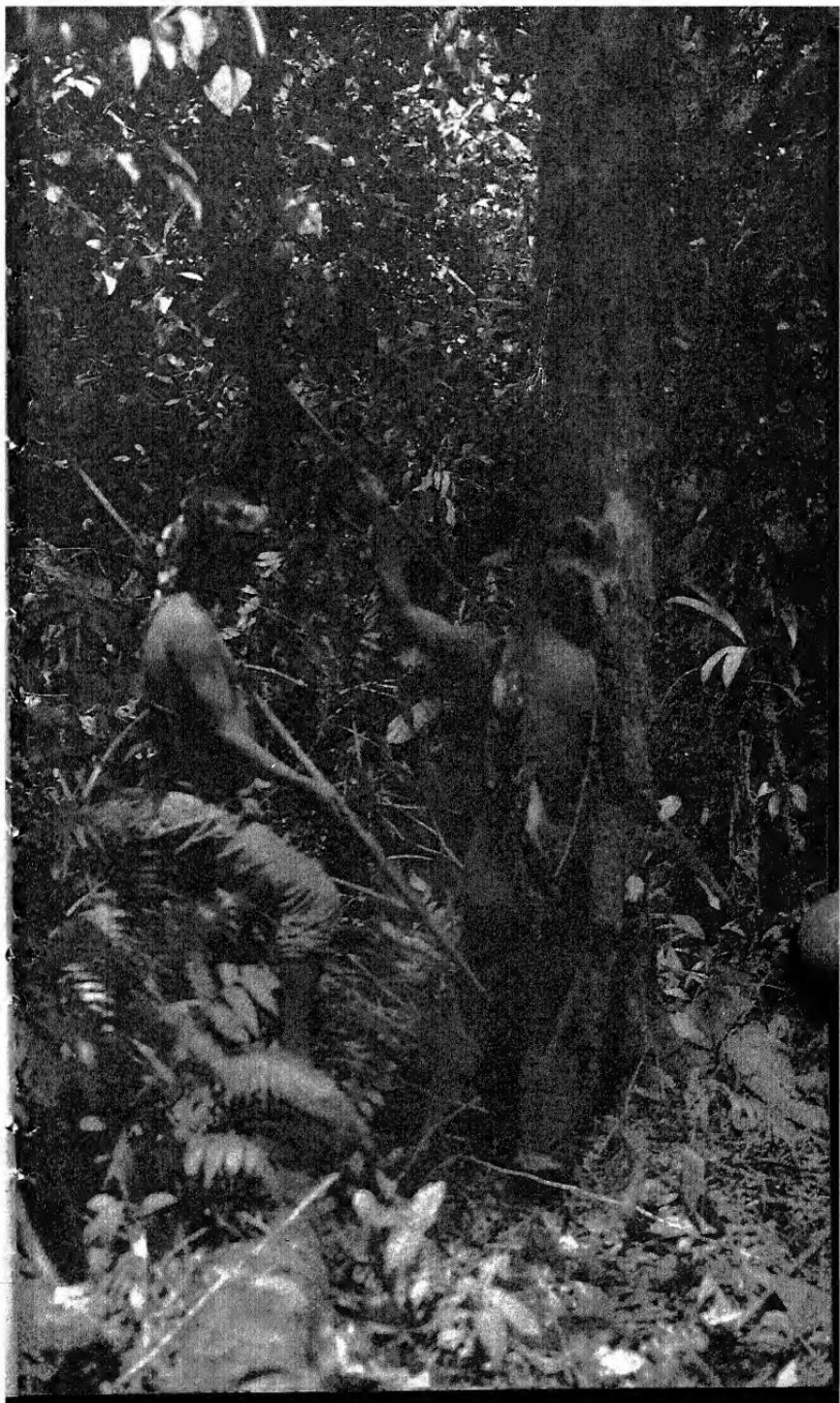
As my concepts of the Indians' position in their changing world were formed I evolved my own principles of establishing friendly contact among them. They are simple and few in number. Also, they seem to be effective. At least, comparatively trouble-free, I can gain my own ends with them whether for good or for bad. In my work, of course, these principles are all-important—as important as any precept of common courtesy which might govern an act of social intercourse in civilization. In the outside world careers and futures depend upon the observance of a well-defined etiquette in entering an office, in making a business call. In the jungle your very life can literally hang upon your proper accordance to established ritual: It is risky and foolhardy, for example,

not to announce your presence as loudly as possible when you are approaching a clan house or not to follow through the long and tortuous greeting ritual of the Jivaros. There might not be another chance.

The rules for jungle conduct sound trite, but they are valid: fair and prompt pay, swift and artificially dignified discipline based on absolute right or wrong (Indian justice does not distinguish any shades between black and white), and an unvaryingly equitable temper no matter what occurs. To be other than poker-faced in any emergency is to lose face, at once and permanently.

Possibly the most important rule of all—and the least observed—is an understanding of the Indians' own customs and a strict adherence to them. That is, if you want or need their friendship and want to work with them. Otherwise, it doesn't matter, least of all to the Indians. If they've known white men before, they'll unhandily carry your goods, overcharge you wickedly, and, for your observations, present a front which would make an old-fashioned cigar-store brave seem temperamental. Or if they're the other kind of Indian, you simply don't camp out in their neighborhood.

Even with a jungle-stilted and flattering title—*Jatun Lomo Yachag*—and some years among them, it is necessary for me to follow the rules even more closely and circumspectly than a newcomer. After all, I am expected to know my social way about. A faux pas on the part of someone obviously among them for the first time is frequently overlooked with a maddening amount of primitive condescension, unless the blunder constitutes a direct infringement of what the red man considers his sacred rights. An unfulfilled promise-to-pay, the wrong sort of advance to an Indian woman, too flagrant a disregard for certain superstitions . . . and every once in a while, on some distant inside trail, a man is found with both hands tightly gripping the shaft of a lance—all-



ways thrust just under the lower ribs and then up through the diaphragm—or with his neck skillfully broken by the quick, accurate jab of a chonta-wood walking staff and gasping and biting at the soft mud.

Of stern necessity, wild men are the most ultraconventional people in the world. Their sheer survival depends upon it, upon their doing the same thing in precisely the same way for generation after generation in the changeless forests. And there is only one way: the right way. There is only the right way of shooting a dangerous rapids, of stalking a jaguar, of ambushing an equally nimble enemy.

Any other way is death. Nonsurvival.

So the Indian is either a very good Indian, from the Indian's own point of view—and yours, too, if you want to work successfully with him, or a very, and usually quite nastily, dead Indian. If you want to put it another way, the jungle is pragmatic, pragmatic beyond the meaning of the cloistered James, far beyond any concept of the moss-haired soapbox Nietzsches. In the most literal, club-and-fangish sort of way, *that which works* is good. There is nothing else.

And there could be nothing else, no other way, where primitive men pit themselves and their petty manual skills against the strength of the jungle and the things that are in it. The jungle, after the sea, is the mightiest force in all nature. To me it has always seemed a miracle that a mechanically unequipped Indian, even with his skill and profound instincts, can create in it an artificial environment successful enough for his survival. Any white man, no matter what his experience, with no more equipment than an ordinary bush savage who possesses no trade goods, can starve to death in the remote jungle about as quickly as if he were at sea in a small, open boat.

The life-and-death culture of the Indians is evolved only by the process of primitive trial and error, and jungle trial

is costly and jungle error nearly always means death. Blow-guns are made a certain length, dugouts are carved in a certain shape, and your ancient aunt, Ninatucuscha, cackles different magics over certain herbs because that has always been the best way. It would be far too dangerous to the individual to attempt a change. An indispensable part of his heritage is the fear and distrust of any innovation, of any change from the instinct-standardized principles which have enabled the generations from which he sprung to compete with the wilderness. No matter what obvious proof of the efficiency of other ways of doing things you might offer him, he is incredibly timid in his acceptance of the novel.

It is even difficult to introduce a new kind of trade goods into the jungle. Sometimes when the new goods are for adornment and personal decoration, which is getting close to certain magics and taboos, it is dangerous. Imagine trying to introduce hasheesh into a small-town New England sewing circle. It would be like that.

Also, what we have come to call—with somewhat questionable consistency on our civilized part—the “treachery” of the Indian is merely his normal routine. To him there could be nothing more natural, more sane and rational, than his ambush style of warfare, his inexplicable and embarrassing desertions, his lack of dependability and his childishness—especially when he is not in his own territory. Or when he thinks your magic is bad and he doesn’t like you.

If you want to travel the jungle trails in peace, and with whatever comfort and security there is to be had in the tropical forests, you must give way to the normal psychology of the red man. That is something you cannot change, and you might as well adapt yourself to it. There is no other way. And there is no appeal.

But once you have become sufficient of an avatar, in the Jack London sense of the word, to take that side of the In-

dian into consideration and accept it as the inevitable jungle norm, you at least know what to expect in any emergency and can act accordingly. For there is always this comfort, no matter how scant it is, when you're a solid month away from the nearest policeman: the Indian always wages his war, or handles his canoe, or dumps his load in the same way under any given set of circumstances. Not for nothing did ten thousand early cowboy movies flash the thrilling title, "The painted devils always attack just as dawn breaks over the butte" or "The yelling redskins always sweep down on the wagon trains just beyond yonder clump of cottonwoods." They knew their Indians! You can bank on them as being, in the main, entirely predictable, which you can't always do with, say, a traffic policeman.

So, I should always rather have my Indians work with me—and call me "brother" and bring me what I want of their drugs—than merely for me or, as frequently happens, against me. It is an interesting and even pleasant procedure to switch your illusions of reality from those necessary to cross Times Square in safety to those necessary to accept the tricky customs of your jungle friends as your own. It is easy, and safer. . . .

However, in none of this am I attempting to idealize the noble red man. He doesn't need that. His own personality is very adequate, as is. Aside from what we might regard as his virtues—his jungle wisdom, his hospitality, and all the rest of it—he is undeniably limited in his mental horizon, he is treacherous and fearful once outside his own bailiwick, indolent, frequently drunk and, chronically, so arranged by nature that it is better to stand to windward of him, as he unsmilingly also endeavors to do with you and for the same reason. My only thesis is that if you do accept him as he is, you need have neither trouble with him nor fear of him.

Unfortunately, there are too many observers and pseudo observers of the tropical hinterlands, who have had—or claim to have had—Indian and other jungle troubles, and have then been inaccurately articulate about them. Usually their troubles, whether real or imagined for the sake of the budding script, are their own fault: their inability to accept and abide by the conventions of the people in whose territory they are. And those people regard their jungles with a fiercely proprietary sense and are nastier about certain kinds of trespass than a spoiled child defending a lapful of new toys from the little boy next door.

These particular Indian-thwarted, tropical raconteurs (latterly there have been quite a few of the fair sex among them, the kind which always registers in the hotels as “exploradora Americana” or “Inglesia,” as the case may be) write of their trials and tribulations, their jungle *Welt-schmerz*, at one extreme of the dramatic spectrum or the other. For them there are no shadings of judgment. The Indian is wholly a noble, noble red man, a bright and shining sylvan god, or else he is a stupid example of all that’s worst in savagery.

Both extremists do real damage to the reputation of the Indians, their jungles, and the governments which own them. And quite often, on the South American end, they come to grief in their efforts.

More than one southern republic has declared some of these individuals *persona non grata*, for reasons which appeal to the Latin pride as good and abundant. After all, one can hardly blame the countries of the tropics for not taking to their volatile hearts and ample bosoms the stream of men and women who paint the pleasant romance of the countries they have so briefly visited as consisting entirely of warlike Indians, head-hunters, foul diseases, and incredible dangers. In at least one of the republics, if you enter as an “explorer”

and your research is not regarded as legitimate and authentic you are carefully watched during your stay, which the local authorities pray will be very brief, and are politely but firmly refused the always necessary governmental permission to travel beyond the limits of civilization. To use the Spanish expression, "One has reason!"

Government heads, whose dark eyes burn with holy wrath during the telling, recite instances which make you blush for the whole exploring tribe, guilty and innocent alike. They tell you how some Indians were bribed to do cold-blooded murder and shrink a head, not so long ago, so that the process might be photographed—not for the purpose of recording one of the most interesting and valuable bits of ethnic lore in the primitive world, but simply as footage for the motion-picture story of an entirely hypothetical expedition. And at that, they tell you, it wasn't done among the real head-hunters.

Or, they tell you of those who, going to some small town at the edge of the bush, retire to the nearest woods with a group of wondering peons, pay them to undress and then substitute some feather ornaments bought in a novelty shop in the nearest seaport for the ragged overalls they ordinarily wear. Once stripped to their unwashed brown skins and draped with a minimum of beads and feathers, the intrepid explorer has a tribe of savages ready for the camera.

What happens next is limited only by the visitor's fecund imagination: jungle warfare, savage rites and orgies, and, as has happened several times, pornographic footage which would make the preceptresses of the Alexandrian Didascalion turn green with envy and make the legitimate children of the wilds take a new lease on their conventional lives if they were ever able to see it.

Sometimes, of course, the resolute adventurer doesn't even bother—and mud being what it is you can hardly blame him

—to leave the metropolitan comforts of the country's largest city. A glance at the blanker spaces on the largest-scale map available is all that's necessary to begin with. Add to that the memorizing of a few place names, the names of one or two tribes, and a few anecdotes (particularly the one about the shrunken head of the red-bearded explorer, which still seems to be good!) picked up during the cocktail hour in the hotel bar, and you've had an expedition and a very nice one. The rest is merely the writing and the publicity.

Indeed, the memory is still green of one man, entirely reputable in his own well-known field, and who should have known much better, who apparently took a fling at the back country by the process described above. The only trouble was that he must have used the wrong map. He published an account, they tell me, of his railroad trip down from the high Andes, in a certain country, to a point at the head of canoe navigation on one of the Amazon headwaters. It was well written and graphically done. Towns en route were named; jungle hotels, amazingly enough, were described; stopovers were indicated. It was a beautiful and complete piece of work, universally successful except in the country described, where it was received with faint applause. There wasn't, you see, any railroad there. Long years will elapse before there will be a railroad in that particular and remote section of jungle. The map he had looked at showed a line *projected* many years ago, and long since forgotten.

Literally, the woods are full of not-too-legitimate "observers" of one sort of the other. The friendly, tolerant, embarrassed South American governments sigh at the merest mention of the word, and politely turn them over to their country's nearest consul for reshipping when they become too obstreperous, as some of them do, especially those who try to include an unreasonable amount of public, or forbidden, property among their souvenirs and trophies.

All this makes things difficult for the legitimate fieldman who suddenly finds himself hedged around with new governmental restrictions regarding his work and his presence in the wilderness areas. But the governments can hardly be blamed. They've simply learned to wince at the southbound echoes of the clarion call from lecture platforms: "Where no white man before . . ."



Chapter Eight

Manners, Morals, and Magics

The average jungle-dwelling Indian, especially one who has had little contact with the outside world, is a fascinating object of study and, if you have the patience to put up with his vagaries, an exceedingly entertaining companion.

He can be as stolidly and irritatingly aloof as the most thick-skinned Back Bay introvert, and for much the same reasons. He is intensely proud of those of his real and imagined racial ancestors who, with the dimming passage of time, have crept into his myths and legends. Much of his folklore is based—as most folklore is—on exaggerated and wishful accounts of the prowess and characteristics of his forebears. But at that point he goes us one better in the stark realism of his ancestor-pride: he frequently believes that, down to the last Old One who has just died, the souls of his progenitors are all around him in the jungle. They have been transferred into the bodies of various animals: the deer, the jaguar (if his late Uncle Ahimbi happened to be a curaca), the droll-faced cipurro monkey, occasionally the tapir and certain members of the sloth family, for examples. When it comes to the sloths, I commence to see a certain logic in the idea.

This act of soul transference into an animal body after death is called, as I have said earlier, metempsychosis, by the



white ethnologist. Naturally the Jivaros have a shorter word for it, or rather for the soul after it has landed in the animal's body: *Wakani*. *Wakani* results in a considerable amount of gastronomic forbearance, for the eating of wakani-animals is strictly taboo. I don't blame them. The cipurro does look like anyone's grandmother, and, if I were a Chumbela, I should hate to take a chance on a haunch of venison which, after all, just might be Aunt Susy.

* The cipurro always conveys the idea of a perpetual senescence, possibly because it is less sprightly and more stupid than most of the monkeys. The female of the species (shown in the photograph)—far from being a simian oomph-girl like the more winning capuchins or the decorative Moss (squirrel) monkeys—always seems like a fragile bundle of Lavender and Old Lace tightly wrapped in a fur boa . . . until, of course, you get close enough to her! The animal is known, other than to the Indians, as the saki monkey or, to-be mellifluously technical, *Pithecia pithecia*.



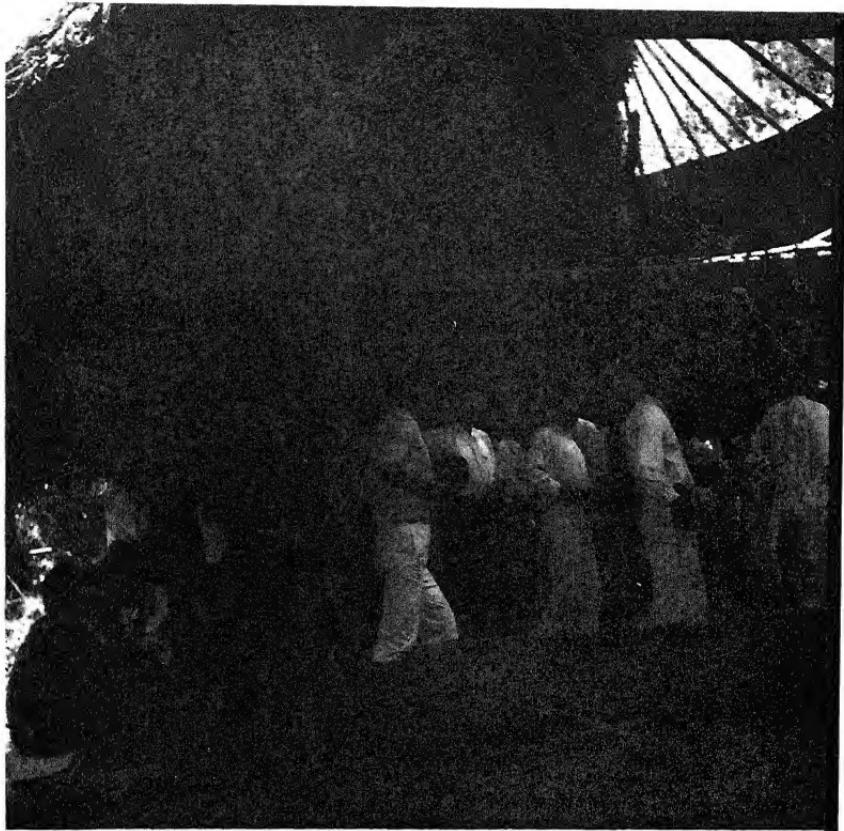
A certain strangely familiar conversational pride in one's family is not unknown in the jungle, either. I shall never forget one instance of it: During the course of a field trip I had just closed a deal with the curaca of a sizable village, near the headwaters of a central Oriente river, for a number of canoes and bogas to take my party and my goods downstream. Payment had been arranged for, and the chief, backing up his words by pounding on the ground with his silver-headed wooden staff of office (apparently the staff is an importation from the Andean Indians), assured me that the dugouts and men would be ready early the next day. He knew that I was in a hurry—as what *franzi* isn't?—and swore to get me off when daylight appeared. Then he asked me for the rest of my opened package of cigarettes, told me that he would as soon wear my red bandanna as the tight, ceremonial neckband of red and blue beads he had put on in

my honor . . . but that he really couldn't give me the beads in exchange, asked me if any of my white man's teeth were removable, how many of my grandmothers were alive, and how far away I could kill a man with my gun-which-makes-only-one-hole-but-shoots-far.

After those points were settled, and I had been firm about the indisputable fact that I could replace my removable bridge better with one hand than he could with two dirty ones, he suddenly started an involved speech about his family. I can still see him as he talked, black-dyed cotton shirt-tails hanging politely outside his woven belt, widespread pre-hensile toes moving against the fine gravel, achiote-streaked face resting on arms folded on top of the long staff. His speech was as long and pointless as only an elderly Indian's can be. It must have taken nearly half an hour.

Finally the end came: ". . . and thus my family, older than the tall trees, were here before there were any white men. It is *sinchi ayulla*, a strong clan, with many chiefs. I, too, am a curaca and have seen white men come and go. Also I am young yet, and strong with my life. My heart burns brightly and I shall live long, for I never get drunk. Others get drunk. White men get drunk. My family is a family of curaces. *I am a curaca.*" He tapped the staff again, his face rising and falling with it. "I do not drink. No white man, I think, could know of a family like mine. Strong and never drunk. But my people will help you on the river. Your pay is good. You have my words—" he turned away, still talking—"my family . . . old . . . strong . . ." He stopped for a moment and told me again that before the sun had fully risen the canoes would be waiting along the beach. Then he asked me for an empty brass shotgun shell to use as a powder measure. I gave it to him and he left.

That night, to celebrate the deal, the entire village, including the curaca, held a fiesta, and stayed drunk for a week.



There was nothing to be done about it. We repacked equipment cases, went hunting, wrote letters, packed the cases all over again . . . and were torn for days on end with the continuous small drums and the frequent, swaying visits of the curaca, who kept telling us about his family. And when we finally got under way, and I gave him the bandanna and said good-bye, he told me again that no white man's family could equal his. By then, I thought he was right. First families are like that.

At other times our jungle brethren can be as overweeningly the *grand seigneur* as any provincial New Yorker who is showing Cousin Elbert the bright lights for the first time. With the aid of Times Square and a few subway rides you

could easily dazzle the red man into a state of deadpan bewilderment . . . with just a dash of complete disdain. But in his own forests he can even more easily, and certainly more gracefully, walk literal circles around you. If he wants to—and every once in a while, for reasons of his own, he does—he can walk beside you all day long thirty feet away from your own noisy efforts in the thick bush . . . and you will never know it, unless he lets you. And he gets the same kick out of it that you or I might from him the first time a taxi-cab dodged too rapidly in and out of heavy traffic.

The only difference is that the second time in the cab he would have learned how to take it, whereas I during a whole lifetime could never match his nature-graceful control of himself in the bush.

In the course of a discussion he will exhibit the same parochial megalomania which any one of us does when one of our ideas or beliefs is under fire. In fact, snug in his own territory he often looks upon the far-wandering white man as being as much of a diamond in the rough as we might regard him in a Park Avenue drawing room or at a literary tea. He is clever, stubborn, limited in his tradition-bound point of view, and sublimely confident that only Indians are right . . . which, if you're an Indian, is correct.

I have held long and involved debates with many of them, but I think I most enjoyed the earthy sociology of an aging subchief of the Campas people, in Peruvian Amazonia. I once spent a few days with the old gentleman, who finally came to like me not only enough to talk long difficult hours with me through the usual interpreter but also to let me photograph two of his wives at once, as long as he stood with them. To photograph more than two at once, as he explained to me with a really kindly tolerance, was simply dangerous business. Two at a time were bad enough, since I acquired a portion of the souls of a pair of his ladies at once



with the black box I was so annoying about. But all five at once? Not even for a new machete (which from my point of view it was hardly worth)! The ectoplasmic balance of his domestic economy might be permanently upset. He had me there.

He also, during the course of my visit, had me down and helpless on some other points:

Why, if priests (who are witch doctors and nothing more to him) were the most powerful of men, as they are among the Indians, did the white ones he had seen wear skirts?

Why did I, wealthy enough to travel over the western mountains and bring him presents, have only one wife? Even I, white, young, and still probably a bit harebrained, should have been able to see the economic and biologic advantages of having several women around the place. He counted off his arguments on his strong, grimy fingers. To begin with, there was one woman to take care of the crops—the yucca, papayas, and other things he haphazardly planted. There was another woman to prepare the food and do the cooking. Another dressed skins, gathered herbs, and did that sort of thing. Then there were always one or two ready to share his split-cane couch or, as is often the custom in the crowded

clanhouse, retire quietly and with dignity into the near-by bush with him.

Further, he told me, where all work is done with the hands, many hands—women's hands—are desirable. Above all, it was necessary to have many, many babies, preferably boys. Too many babies, he said, die among his people. He didn't know why so many babies died, but a lot of women were necessary to keep his people alive and going.

My having only one wife was a stupid and unsound business, therefore, but what else can you expect from a man who scares away the animals when he takes a walk? I said that I'd see about it when I got back to my own village.

I've always wanted to take him on a roller coaster!

That old subchief happened to live in a section of the Peruvian *montaña* over which the mail and passenger planes flew, in those days, between San Ramon field in the eastern Andes and the town of Iquitos on the Amazon. While so simple a vehicle as an oxcart would have amazed him, if he had ever seen one, he had ceased to pay any attention to the machine-birds which roared overhead. He couldn't believe in them unless he was able to touch one of them . . . and since he couldn't conceivably touch one, why bother about them? That comment made me lonely for my own tribe!

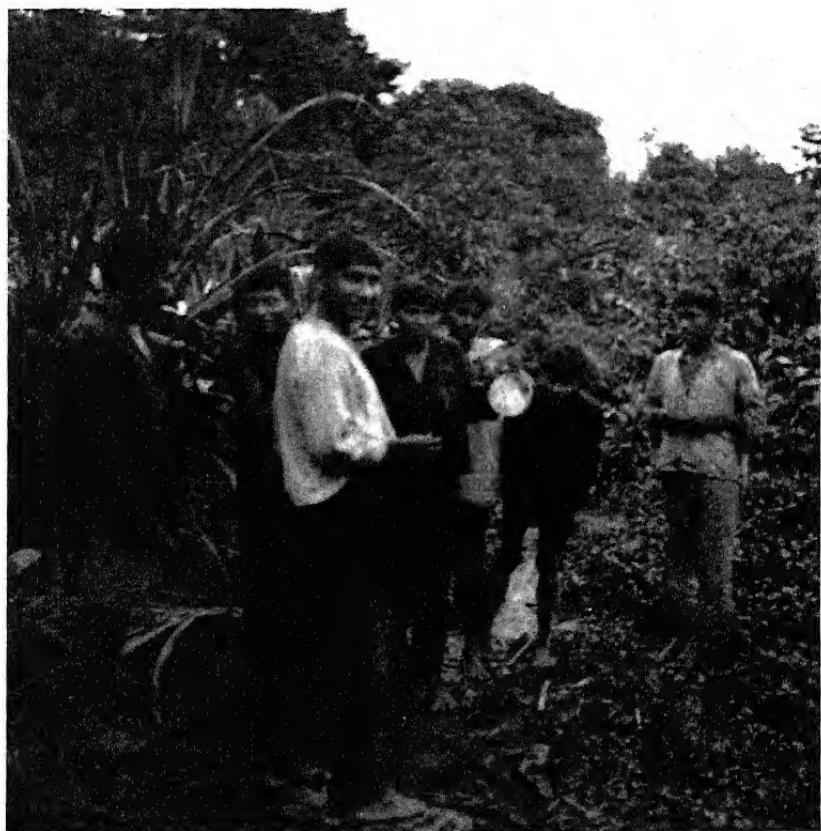
Surely we, who are so unskilled in their everyday jungle routine, who bedevil them to learn the secrets of their curare, their oral contraceptives, their permanent depilatories, appear as naïve and *rus in urbe* to the Indians as they reasonably might to us.

So, they tell us endless folklore, and spin us yarns which aren't too different from the tall stories told the world around by outdoor dwellers to their city visitors, whether the raconteur be guide, dude wrangler, or jungle Indian. They will tell you how, only one rain-moon ago, they were frightened

on the trail by a two-headed snake playing a *bombo* (small drum) high in a palm tree. Or how their fathers, now unfortunately dead, trained giant boa constrictors to carry a whole clan at once on their mighty backs. A whole clan except the women, of course. They had to walk.

But, even as they smile gravely and tell us their stories-for-tenderfeet, they are awe-struck with our eyeglasses, gather in groups to gasp at a magnifying mirror, and are nervous and fearful of the magic that must be in the binoculars—especially when they are held the wrong way.

Dental plates are almost fearsome, and even a single removable tooth is something they will talk about at night. Gold crowns, however, are something else again. Curi is



something they can understand; traders will part with a considerable bulk of white man's goods for a very little of it. Gold teeth, therefore, are something to be admired and—if the owner is at all willing—to be investigated *in situ*.

I remember the time when, standing talking in the doorway of a palisaded Indian house with a group of men, I heard a sudden outburst of women's laughter just inside the door, accompanied by a counterpoint of strangled gurgles which ended in a half-laughed cry for help from the Niña. Four women had her down on a low, slab-bench, and, giggling among themselves, were industriously probing her mouth with every dirty finger they could wedge into it, looking for gold fillings to admire. It seems that they had caught a glimpse of one while she was talking to them. Then, before she knew it, she was the center of a lively gold rush. After the rescue, and when she found that her jaw only felt as if it had been dislocated, she said that they had done everything in her mouth except stake out claims and build a sluice box. It was something new and delightful for the jungle girls, whose own teeth were perpetually blackened by chewing the *sindi-muyu* leaves.

The most successful use I have ever seen made of gold teeth was that of one of my Ecuadorian field assistants, Jaime. Jaime is an excellent jungle man. When he isn't working for me, he wanders, with the simplest and lightest of equipment, up and down the mazes of the Oriente, trading with the Indians for gold and other jungle products. He also collects birds, insects, and primitive artifacts which he resells to a widely scattered clientele of naturalists and museums. He is clever and skillful in the preparation of his specimens, and makes a very decent living.

Jaime is known among nearly all the Oriente Indians. They save up their gold and skins for his irregular visits and welcome him royally. He has godchildren among the Jivaros;

the remote Zaparos call him their brother . . . and all of them admire him for his teeth.

Jungle diet being what it is, some years ago Jaime started having dental troubles. The usual acid erosion set in along the gum line. As a starter, two of his front teeth were crowned with gold during one of his visits to Quito. When he returned again to the Oriente, he noticed an immediate interest in the shining, centrally located incisors made of the good curi. He also noticed that he was more than ever warmly received, that his trades were easier and more numerous, and that, at night, nothing so pleased the Indians as to be allowed to examine, at close range, the fire-shining crowns. Not only the men but—Jaime has long been a widower—the women fell for their sparkling charm.

On his next trip outside he took time off and went the limit. For some years now his swarthy grin has surrounded a complete set of glittering gold teeth . . . and he gets more birdskins and more artifacts than any other similar trader in the entire Oriente. He has also, he tells me, seduced more of the pigeon-toed, brown-skinned jungle nymphs, young and old, than any other man in all the region. It is all, he says, owing to his teeth of curi. I, myself, have heard the Indians speak of him:

"Here is indeed a rucu, an Old One," they say. "He is runa curi quirucunapac, man-of-the-golden-teeth. We have seen them, and felt them, and when he is among us we give him what he wants."

If we accept as one of the definitions of humor the appreciation of the ludicrous or the incongruous, the jungle folk are humorous and even, though more rarely, witty. When nothing serious is under way, they are great laughers and gigglers and shout jokes to each other as they pole their canoes or when they are on the trail in friendly country.



One of their main veins of humor is strictly scatalogic . . . of the earth earthy, and no end! It's amazing, the simple, wholehearted, unrefined joy they get out of their entire metabolic processes and, especially, their petty disfunctions. Grim, hard warriors will shake with silent but obvious laughter if Mr. Henry, the pet Capuchin monkey, spoils the number one pair of gabardine breeches, or if you have the *colico* on a rain-swept night when the bushes are very, very wet. It's not that they are morbid about it; they simply appreciate the humor of the situation. Few other things happen in the jungle which are funny . . . unless it be the minor accidents which occur to others. If you should happen to fall into the river, or sit down on some fire ants, the whole village will be convulsed for days. It's the way they are, and you might as well like it.



Although adult Indians are not demonstrative among themselves, they are affectionate and almost tender with their children. The kiss on the mouth is known, and not really liked, only by those Indians who have had *that* specific sort of contact with the white man, but the younger children, naked and dirty, are lovingly fondled and nuzzled almost to the point of asphyxiation. I have even seen them clothed in tediously made, infant-sized ceremonial costumes and proudly paraded before the other, equally fond, parents. All of that until they are old enough to be useful, and to learn the bitter-hard lessons of jungle lore.

Then, with a swiftness that is part of all tropical growth, they are almost at once men and women, and lapse into the impassivity of the grownups. A boy of fifteen has received his man-weapons and is competent in their use. Also, he is

just about to have his first baby by a little girl who is frequently no more than eleven or twelve.

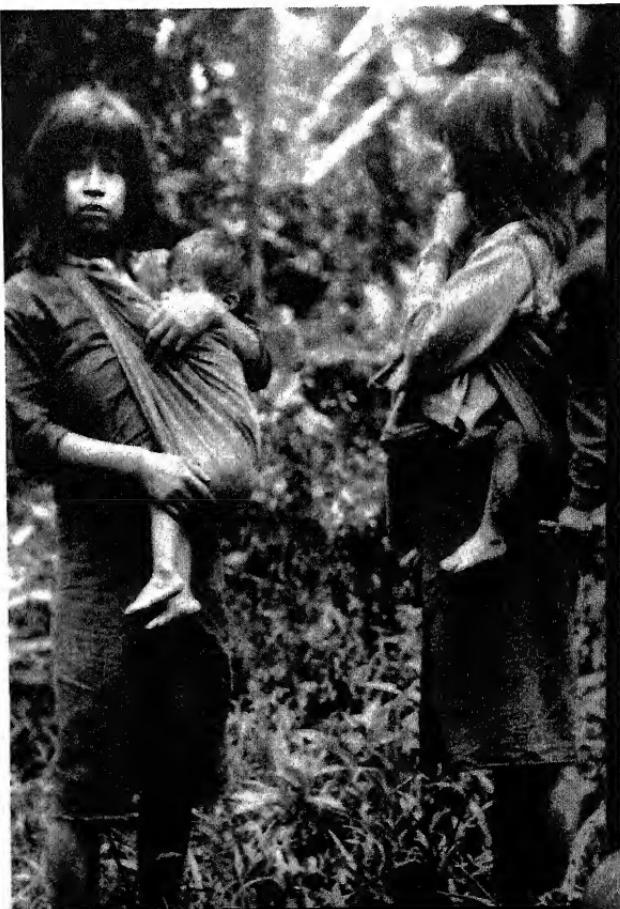
Their physical kindnesses extend also to the young of wild animals and birds, which they are skillful at taming and treat well. As often as not, they become so attached to their pets that they refuse to sell them. But, oddly enough, with the possible exception of some of the Jivaro Indians they brutally mistreat their dogs, which are kicked and beaten, mangy and starved. Yet the Indian, pointing at the trembling, half-alive bag-of-bones, will boast of his animal's hunting prowess, a quality which I have never really seen in any of the starving curs.

The bush people attach a wholly mythical value to their dogs and will lie, steal, or cheat themselves in a trade to get



a new one. I was always afraid, at my ranch, that the visiting jungle gentry would manage to make off with one or the other of my blooded German shepherds. They never did, but it would have been poetic justice of a sort, as I found out after I had acquired my own canine stock. Their grandparents had been stolen from the kennels of the then Khedive of Egypt and hastily brought to South America!

Black dogs, by the way, are held especially dear. The Indians think one melanoid pup is worth several of any other color. And in that they may be right. They claim that jaguars and pumas, which easily acquire a deadly passion for dog meat after the first kill, cannot see a black dog so easily at night as one of a lighter color. Certainly the big-cat mortality among dogs runs high, and they make the best pos-



sible bait to use in a *tigre* trap, well protected, of course, by a separate partition.

I have heard a convincing number of times the sudden, agonized yelp of an Indian dog, and the quick, liquid-sounding flurry of the night-bush as a cat made its kill and was off. And I have always considered the dog lucky. He didn't have to live with the Indians any more.

A great cat—cowardly enough otherwise, and usually inoffensive where man is concerned—will go to any lengths to get a dog, once it has tasted the smelly, bony beasts. I know of one example in the Peruvian montaña: a clan of Campas were seated around their night-fire with their last remaining dog in the lighted center of the circle of Indians. Without warning, and in a single great leap, a cat cleared one side of the circle, picked up the dog, and vanished into the night, sailing over the heads of the stunned Indians on the other side. It happened to be the *tigre*'s last dog, however. Its hollow-spotted pelt was spread out in the same house two days later.

As part of the strange paradoxes of their affection, many Indians have no word for love in the abstract sense, just as they rarely have an original word concept for abstract, well-wishing greetings or farewells. They are always—and aptly—expressed by concrete thoughts and wishes. You don't just say "hello"; you start in with the conditions of the river down which your friend has just come, work slowly through the specific details of the weather and the hunting, and wind up asking him how the new knife works. It's all "hello."

And because wild men are, and have to be, the world's most conventional people, they are sexually moral and strict within the limits of their own ethic, and even as we ordinarily, and ineptly, use the word "moral." Their sex morals are, of course, from our point of view delightfully and enter-

tainingly shot through and through with the same contradictions and inconsistencies which we find elsewhere among them. Physical modesty also runs the whole gamut from A to just about the middle of the alphabet . . . the G-string!

Oftentimes the sexes are separated when river bathing, either by entering different parts of the same stream or by using alternate days. And peepers, attempting to spy through the bushes along the edge of the beach at the brown-skinned ladies in the stream, are invariably roughly punished. Even though the Indians are engaged in mixed bathing, there is usually, especially when a white person is present, a great amount of amusing pubic modesty. It apparently is not deemed necessary for any part of the body except the genitalia (which are frequently depilated) to be covered. Consequently, when a whole group of Indians, men and women, having removed what little they wear in the way of clothing, stand on some white-graveled bank preparatory to running into the water, with one or both hands where they will do the most good, they look like a coppery row of incredible September Morns.

Some of the less remote, but primitive, women carry out the old hickory limb idea to an extreme, if they feel that there is any chance whatsoever of their dubious charms being spied upon on what we might call a noncommercial or entirely gratis basis. They will take the hickory limb—any stick with a small branch in it—right into the shallow water with them and, sticking it upright in the bottom, use it as a portable wardrobe. Lifting up their hand-woven, wrap-around skirts, they lower themselves, squatting, into the protectively muddy water, until they reach the Plimsoll mark of the waist. At that point, with a delicate dexterity, they undo the skirt, remove it, and hang it on the stick. They are then encumbered with, usually, only a black *linsilla* bolero type of jacket which, ashore, leaves a band of brown dia-

phragm always exposed . . . a handy arrangement which may be lifted for fanning the upper body, for scratching, or for the ever-ready presentation of lacteal nourishment in a region where weaning rarely occurs before the second year. This scant jacket is hung up simultaneously with the total submersion of the shoulders. The entirely subaqueous bath is then proceeded with, the bathers satisfied that the hand has been quicker than the errant eye.

About the most modest Indian garb (remembering that the red man's modesty is influenced by sun, rain, briars, and insects, as well as other less tangible forces) I have ever seen is that of the Campas people. It is a ground-length, coarsely woven, nightgown sort of affair, usually bearing a dyed design of some kind, and always very dirty. The Jesuits introduced it among them many generations ago, for reasons which were moral rather than aesthetic or even practical. The only distinction between the sexes the good padres went so far as to permit was a deeper and squarer neckline for the women. (Even the jungle priests had to recognize, and make allowance for, the fact that the mammary processes went on just the same, even under the earliest Mother Hubbard on record.)

And, with their flowing robes, the Campas are modest enough until a fleabite occurs in any region more than a few inches below the neckline. I have seen whole groups of them, men and women talking together, suddenly reach down to the ground with jungle dignity, lift up the entire garment to the armpits, and scratch with a grave unconcern. *They* are some of the Indians who are strict in their observance of unmixed bathing!

Adultery among Indians is almost universally regarded as a serious offense; so serious that in certain instances it is punishable by death, there being neither tabloids nor divorces in the jungle. The punishment in any case, however, is quite

often all in favor of the erring male. I know one tribe in which, when a couple is caught *flagrante delicto*, the man is told merely not to let it happen again . . . but the woman has a stone tied around her neck with a piece of tree vine, and is tossed without further ceremony into the nearest deep river.

In two very remote tribes adultery is, curiously enough, punished among the women by depilating the entire cranium with a certain drug, thus leaving the unfortunate bearer of this permanent badge of shame to live out her days bald-pated along the jungle trails and rivers. This stigma seems somehow even more dramatically effective than the famed Scarlet Letter.

A sudden, untoward move by a white man in the direction of an Indian woman, or sometimes even in the general direction of the women's quarters, and a lance or a long arrow, barbed with the iron-hard chonta wood, is apt to fly. Yet, by straightforward negotiation, if you have a complete lack of all sense of the aesthetic, almost any jungle maid or matron will give her all for practically nothing, and that with the smiling consent and knowledge of the masculine side of the family. If an Indian girl or woman runs away with a white man she may never return to her people, or if, as occasionally happens, her return is permitted, she is forever beyond the tribal social pale as regards formal marriage with one of her tribesmen. On the other hand, if she indulges her whims and fancies with a white man within the confines of her own village, and after the usual preliminary negotiations, everything seems to be quite all right; she is in fact regarded as a local Lorelei for the time being.

A queer, inconsistent affection of the Indians (inconsistent to us because it is part of their grimly pragmatic survival instincts) also extends to the weaker members of the whole



clan, or overgrown family. The oldsters are highly regarded and cherished, but only so long as they are in some way useful. They are called *rucucuna*, the Old Ones, as are also some of the younger, outstanding members of the clan, and are carefully tended so long as they contribute something, in any way, to the communal life, whether as witches, herb-alists, or what not. Otherwise they are ignored, and among some peoples even tidily disposed of.

The sick and injured are cared for, but also only to the point of communal efficiency. Frequently a case of hopeless crippling is allowed to perish through starvation and sheer lack of care. Yet, on the other hand, the jungle folk seem to have an added respect for one who has overcome physical

handicaps and thus proved his or her ability to survive again under the rigid laws of the great forests. I have seen several Indians who had been variously crippled *after childhood* by the loss of an arm or a leg, not only get along with apparent ease, but receive a high degree of co-operative aid from the rest of their rather admiring tribesmen.

I have said crippled *after childhood* with good reason. Most of the South American jungle Indians kill a malformed child at birth, so that cases of congenital crippling or mental deficiency are rare among them. Rare, that is, except in those borderline areas between actual civilization and straightforward primitive culture, where missionaries have succeeded in impressing the Indians with their ideas of the wickedness of infant euthanasia. Consequently, in zones where the good padres have long held intellectual and emotional sway, the woods are full of crippled or mentally deficient individuals. But their lot is hard in the wilderness. Even the missionaries seem somehow unable to compensate for their own handiwork.

In fact, though for slightly different reasons,* only the first-born of Indian twins is allowed to live. And infant mortality being what it is among jungle dwellers, only the strong grow up in any event. Only the strong are wanted and needed.

This idea is carried out among certain Indians, with whom I worked, to its ultimate expression: shortly after conception, the mother-to-be will consult a brujo, who, sometimes under the influence of one of the narcotics in use among his craft, will prophesy whether or not the unborn child will be strong and desirable or otherwise. If it is otherwise, the woman will take an abortifacient—of which these Indians have several powerful ones.

* It is instinctively repulsive—and certainly contrary to good magic—to the Indians to resemble the lower animals in any way, even as regards multiple births. This is also another reason for the widespread use of permanent axillary and pubic depilatories among them.



The clan is the social unit of most of Amazonia, rather than a whole tribe. The jungle dwellers are still below a state of social consciousness which will embrace more than a collection of clans forming a single, widely scattered village, save in the rare case of intertribal warfare. Then all members of a single subtribal entity, forming possibly an aggregation of separated villages, will recognize a common enemy in the shape of a similarly opposed aggregation. A concerted, warlike effort of this nature, however, is not only exceedingly rare, but is usually incited by some individual more farseeing than the average Indian. Sometimes, in the old days, he was a white concessionaire, sometimes a trader bitten by the lethal ambition to establish large-scale proceedings in a hostile territory.

Frequently, though, an individual who belongs, no matter how loosely, to a certain tribe will ambush a member of another large tribal division, with no particular reason, seeming to base his motif of violent prejudice on mere regional differences, when there is no apparent dialectal or other cultural distinction which might serve as an excuse. And always Indians from one tribe or region refuse to enter a distant, or even contiguous, region unless they are over-

whelmed with a dazzling display of trade goods. Even when they are under the protection of a white man they are ill at ease, sullen, and nervous when they are in the other fellow's bailiwick.

This infrequent recognition of a *general* enemy does not prevent them from indulging in interminable feudlike, intratribal, and even intraclan, petty wars. The Jivaros are past masters of this gentle if deadly art, though it occurs among other tribal units also.

Indeed, I have known the upper and lower ends of the same village, laid out in open order on the banks of a river, to be so fiercely opposed to each other that raids resulted, and Indians from the upriver end would not land at or pass by the downriver end of the village, and vice versa. It wasn't so long ago that I attempted to fill my specimen presses at just such a divided village on an otherwise peacefully meandering stream, in the distant central Oriente. I finally gave it up, when a pair of my plant gatherers from the upper end wanted to commit mayhem in the lower end, all for the sake of white man's science. It seems they disagreed about the name of a plant with some specimen gatherers in the lower end. I took what I had and went to another place. As far as I was concerned, the white man's science wasn't worth it.

The most fascinating aspect of the more remote jungle Indians—and one which certainly packs its own wallops when you are dealing with them—is the fact that their whole life routine is a constant current of strong, purposive magic. Nothing with them can ever happen by accident, and unless you so manage your own affairs that you outwardly at least seem to be aware of this all-pervading magic and witchcraft—and maintain a show of decent regard for it—you are likely to find yourself in trouble. They take their magic seriously.

If you are an Indian, magic enters into every step of your life. You are born according to magic—and the drugs concomitantly employed with it.

If you are not born—as frequently happens!—that negative act is owing to magic and drugs, as we have already seen. And, to go a step further back, you may not even be conceived, for here again jungle magic and drugs—that inevitable combination—step into the sylvan picture with one of two or three oral contraceptives plus a considerable amount of behind-the-scenes mumbo-jumbo. When that happens, you simply don't have a chance from the very beginning.

If, though, you *are* born, magic really enters your being both during the act of birth and just after it. Both drugs and incantations are employed to start uterine contractions—as well as to stop them and to stop uterine hemorrhages. Whether effective or ineffective, as far as I have been able to observe Indian drug magic has not overlooked a single human crisis, beginning with the first.

And from there on, until some time after you are dead, magic and taboos rule your world and everything in it. Your secret name is evolved for you by one of several different means, but as soon as it is yours it is attached by magic to your soul. Thereafter, everyone to whom you tell it (and consequently the total number must be small) gets along with his knowledge of your secret name, a bit of your soul, for his ultimate strength and your weakness.

The black art attends the making of your weapons, their strength and accuracy, and your prowess with them. Certain foods, for mystic reasons rather than assimilatory ones, give you more strength than others. The flesh of certain animals gives you their speed, cunning, agility or ferocity, as does the wearing in some instances of a wristband made either of animal skins or from the hair of an enemy or other person whose jungle-worthy qualities you might wish for your own.

Arrow poisons and medicines are brewed with witchcraft and tinctured with sorcery. Sleep is often the "little death," and your nightly eight hours put you briefly into the mazy vale of the beyond.

For that reason, artificially induced sleep among the Indians is one of their bits of portentous witchery. The fates of whole villages lie in the nebulous, distorted hallucinations and dreams of a witch doctor who has narcoticized himself with *haya huasca* (soul-vine), or *guanto*, or one of the *natema* mixtures of the Jivaros. So it is sometimes dangerous for a white man, however friendly he might be with the Indians, to anesthetize or narcoticize one of them for any reason, even surgical. One of my few dangerous misunderstandings in all my time in the bush came about because I administered a quarter grain of morphine to an Indian upon whom I operated for a felon, and whose stalwart body had no drug tolerance whatsoever. When he came to in a couple of hours and realized that I had given him a "sleep-of-magic," he and his whole clan were ready and a bit too willing to get rid of me and my potent brujerías. It took me a nervous and jumpy hour to calm them down and convince them that my intentions and my magic were of the best.

The belief in magic even regulates the amount of hair an Indian wears upon his body. Whenever he can, as has been mentioned, he depilates (sometimes mechanically and sometimes, if he is a member of certain tribes, permanently with drugs and magic) both the axillary and the pubic regions and, when he is able, gets rid of what he has in the way of a beard. In fact, he heartily dislikes the hair on the average white man's body and even considers it unclean.

If you, as an Indian, are unfortunate enough to have me point the black-box-which-takes-the-soul at you, and if, having succumbed to the lure of trade goods, you allow your-

self to be photographed, you are a lucky Indian if you don't lose so much of your soul to me that you have a low fever for a day or so thereafter, and even come to regret the string of lovely golden beads I urged you to take in exchange for the privilege of snapping you. Indeed, if you feel that you've lost too much of your soul, or if I am unlucky enough to photograph you coincidentally with a spell of real sickness, then you tell the rest of the village that the camera is bad medicine. Thereafter, I simply can't bring enough trade goods into your village for the whole next year to persuade anyone to pose for me.

And when you are sick, jungle magic is nearly at its height. The attending witch doctor can touch you with one hand and the spirit world with the other. You are just that close to what makes the wheels of magic go round. So, if you have, let us say, a severe stomach-ache (which you frequently do owing to your fiendish eating habits), you call him in with the same degree of faith as you would the most highly rated medico in civilization . . . perhaps even more. And when the brujo himself is a little under the influence of a potent draught of haya huasca, and has given you a swig of some bitter jungle remedy, has blown tobacco smoke and juice upon your brown, distended abdomen, and, after making a few passes at it, has suddenly pulled your colico out of his mouth in the shape of a skillfully concealed small frog or pebble or handful of splinters, you immediately feel better and exhibit your eternal gratitude by handing over to the painted medico your second-best monkeyskin bag as his professional emolument. If you're an Indian . . .

Some of the minor illnesses of the white man are among the greatest tragedies of the red man. Measles and influenza, in epidemic form, cut deadly swaths through the jungles, and the Indians have no magic, and what is more important,

no immunity against them. Measles is as yet a new disease among them, and when it strikes a village they die like flies. I, myself, have in recent years seen both the Puyo and the Intillama people practically exterminated, and the upper Canelos groups suffer overwhelming losses.

Such an epidemic is something against which their jungles have given them no magic therapy. The Indian who returns ill from a trading trip, and spreads the disease among them, they make into a kind of scapegoat. They try to keep him away from the rest of the village, but more as an act of censure to the "carrier" than from any attempt at actual isolation. Aside from some pitifully ineffective witchcraft charms, their only attempt at a remedy is to bathe at the height of the fever in a cold sub-Andean stream. Then they usually die.

The elderly, the very young, and the overworked women are usually the ones to go. The young men and the younger, more vigorous women are often the only ones left in an entire village. In a way, of course, they are the ones who should be left. But with the passing of the oldsters, the elderly巫men, the all-wise chiefs, and the ancient grandmothers, there is lost forever much of the oldtime lore. For the young men do not always carry on the traditions of jungle wisdom and jungle custom. I know, because recently it happened in one of my own zones.

I was there when a measles epidemic was just finishing its course. Most of the Old Ones I had come to see had died. It was only now beginning to carry off a great many of the babies, for they seem to live longer when ill than the very old. Our camp was on a river beach, on each side of which the wooded hills rose high and lush. Every dawn one, and sometimes several, canoes passed us on the river, coming from the village just above us, bearing their dead down to a point just below us so that they might be buried in a little

patch of half-cleared jungle, according to the strange new custom told them by a wandering priest who had recently passed through there.

We always knew when one of those canoes was coming, for the hills echoed and re-echoed the shrill keening of the death chant. From far above us we could hear, faintly at first and then louder, the wailing of the mother as she sat in the waist of the canoe and held her cloth-wrapped baby in her lap. And always after the canoes had passed us, and the high hills had taken up the death chant among themselves and lost it in their greenness, we felt that part of the jungle magic had been lost. The Old Ones who knew the lore were gone, and so were the babies, who were to have learned it. Only the sad young men were left, and their hearts, as they said, burned low and were gone also. After a while we tried another village. . . .

And when you die you are still wrapped in magic. If no white priest has told you otherwise, you are buried beneath the floor of the clanhouse in which you lived and your belongings, neatly made into bundles, are suspended from the smoke-darkened rafters under which you worked, and ate, and loved your woman, and one day felt ill. . . . After that, the rest of the clan moves out and builds another house in some other part of the village or possibly across the river where the patch of yucca is nearly ripe.

The old house is now called *huasi-huanui*, the house of the dead, and you are supposed to haunt it. The old trail which passed immediately beside it when you used to sit inside, carving out your new blowgun darts and calling out grave greetings to the passing neighbors, is no longer used. The neighbors' hard brown feet have made a new trail which swings around your house a couple of hundred yards away. They are afraid of your spirit, and the magic of it. . . .

Chapter Nine

Jivaros Don't Have Pockets

T

he most highly individualized Indians, to my mind, of all the Amazon country are the Jivaros, the maligned head-hunters who live mainly in the Ecuadorian Oriente. Their ethnic organization is in many ways different and superior, certainly much more dramatic, than that of the majority of other tribal groups. They are a tall, stalwart, alert people, with a tradition of unbroken independence and successful warfare, so successful in its internecine aspect that, if it were not for their custom of polygamy, they might well have exterminated themselves.

An apt summary of the Jivaros' distinctive and even appealing character is given by Matthew W. Stirling, of the Smithsonian Institution, in his bulletin, "Historical and Ethnographical Material on the Jivaro Indians." Dr. Stirling has apparently translated this excerpt from an earlier (1907) work of Paul Rivet, a French ethnographer and anthropologist: "The Jivaro does not have the submissive, humble, cringing appearance, I might almost say servile, of the civilized Indian; much to the contrary, everything in him reveals the free man, passionately loving liberty, incapable of putting up with the slightest subjection. The eye is quick, the look steady, the physiognomy mobile and expressive,



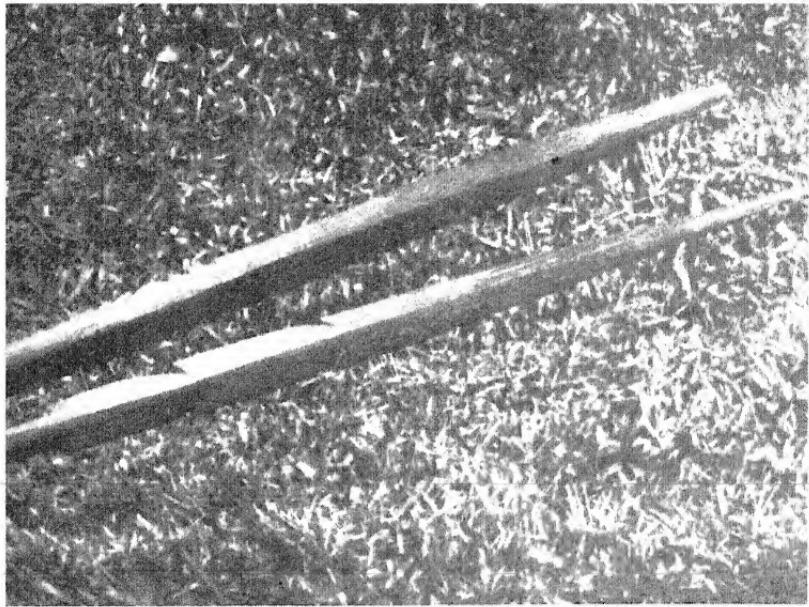
their movements rapid and animated, their speech easy and assured. . . . So one finds him in the forests in the midst of virgin nature whose pure splendor forms a magnificent frame for the indomitable savage."

The doughty head-shrinking warrior is the classical wild man par excellence, and I have always rather admired him. He has been written up and photographed as much in recent years as almost any aborigine on the face of the earth; he has also suffered as much from inaccurate observations, and the unsound correlation of those observations, as any other.

As an up-and-coming gentleman of the jungle, the more remote and primitive Jivaro is dramatic in every aspect of his active life. Yet, as happens with all Indians, everything he does is motivated by the dual bases of his survival instinct and his purposive magic. If, when you are with him, you do not seem to endorse his life drama by some adherence to the principles which govern it, he is likely—with a disconcerting frankness and suddenness—to do his utmost to turn the drama into stark tragedy . . . with yourself on the receiving end.

Indeed, one of his outstandingly dramatic features is his appalling frankness. He makes known with a dismaying immediacy his decisions and judgments in what appeals to him as the black and white of jungle justice. Trample too heavily on his mores, and he is one Indian who cannot be bribed with an overwhelming display of trade goods.

If he likes you, you are his all-but-revered friend . . . until you are unfortunate enough to do something, no matter how small, which he suddenly does not like. Then in a flash you are his hated enemy, and being the hated enemy of a Jivaro in the deep jungles is not to be taken lightly. He is a past master in the art of lunging with his broad-



headed, saw-toothed lance (he rarely hurls it) from behind a tree beside a trail. His favorite thrust, as with many Indians, is just under the lowest ribs, in an upward direction. Then, when the head of the lance is driven well home, the shaft is twirled slightly between the hands before it is withdrawn . . . thus bringing out into the dappled light of the jungle a considerable portion of your internal domestic economy. You simply have to take the Jivaros seriously.

I have known of instances where, after going through the long and arduous *enehma* greeting ritual (the greeting-with-much-noise), something about the pretended visitors' deportment was judged amiss by the Jivaro hosts. Without preamble, the head of the clan said simply—and not even very gravely, "We do not like you, I think. If you stay any longer, we shall kill you." As frank and easy as that!

Each time, being men of wisdom, the visitors left at once. Since they took the hint, if it can be called that, they were allowed to leave in safety, with their equipment and goods intact. And no offer of trade goods in any of the instances sufficed to make the Jivaros change their attitude. There was

simply something they didn't like. Something from which their survival instincts unconsciously recoiled . . . and that made it just too bad!

That same frankness makes them, in certain ways, jungle gangsters. If you are really friendly with a Jivaro and, however innocently, mention someone distasteful to you in or near the territory known to your warrior friend, his immediate response usually is ". . . and shall I kill him for you now . . . or when would it be more convenient?"

On one occasion a friend of mine, a trader, nearly got into serious trouble in that particular manner. He was visiting a friendly Jivaro village situated about three days' trail travel distant from a large river which the trader, thinking of his own livelihood, considered was getting a bit overpopulated. One day he carelessly remarked to the Jivaro clan chief that he, for one, rather regretted seeing some new white settlers in the region. He entirely forgot about the remark until late one night at his camp, after he had returned to the main river, he received a sudden visit from the Jivaro clan chief and several of his well-equipped warriors.

After a short preliminary greeting, the elderly warrior stretched himself, scratched vigorously here and there, and then, as is the custom, spat carefully upon the ground between two of his gnarled fingers. "We are late, my friend," he said, "but we are here. We should like to kill these people you spoke of before the sun is high, so that we may return immediately to our village. My people, I think, would like a roll of cloth-with-pictures, and I would like . . ."

After the trader had explained things to his too-enthusiastic visitors, and had given them the roll of printed cloth, the Jivaros finally left, sorrowing for the weakness of their friend. They have never, the man has told me, thought quite the same of him since.

It is a fact that once you have convinced a Jivaro of the justice of your cause you can easily hire him to commit murder for you . . . but only if he feels you are a friend. I have known this to happen between Jivaros and representatives of another tribe who lived in territory touching that of the particular village I have in mind, and who maintained commercially solid relations by means of the barter system with the head-hunters. In this instance the members of one clan of the non-Jivaros wanted the rucu, or Old One, of a neighboring clan disposed of for reasons of Indian politics. They thereupon sent a delegation across the river separating the two regions. After journeying two days inland the delegates came to the village in question, carrying as a present a dilapidated muzzle-loading trade gun. This they offered to the Jivaro clan chief as a present. The only string attached to the dubious gift was the condition that he would fire it the first time into the lean body of the Old One.

Both the idea and the gun were accepted with thanks, and the date for the murder was set for several days after the *misión de liquidación* should have returned to its own village. The only stipulation made by the Jivaro was that he should be allowed to collect the head of the Old One. That was, of course, readily agreed to, since, in any event, it would have been difficult to lay down rules for the conduct of a dawn raid by the head-hunters. They have a swift and sure technique in such affairs, about which it is best not to argue.

Fortunately for the wise old head of the rucu—who was, and still is, a friend of mine—news of the intended raid leaked out, as it will even in the jungle. Something in the actions of the returning delegates from the murder conference made him suspicious. He promptly left with his family for a few days' hunting in a near-by river valley, too far

away, he knew, for a Jivaro souvenir-collecting party to follow.

The Jivaros arrived to keep their bargain. I was in the village at the time. Some of the members of the Old One's clan who had not made the hegira-for-safety with him asked for a bit of aid in watching for the unwelcome visitors. Though we never saw the Jivaros, we knew they had arrived at the appointed time. Whether they had been warned by the instigators of the plot or whether they had discovered the absence of the victim themselves, I was never able to find out. My own Indians were vague on that point. The Jivaros—and this may be remembered as a bit of the jungle code—left behind them the trade gun, since they were unable to carry out their bargain. But in so doing they made it clear that they were not to be bothered by a similar futile request again, not if the petitioner valued his own head or unless he arranged for his intended victim to stay definitely on the spot.

A few days later, when the Old One returned, he thanked me profusely and presented me with a gourd of an interesting kind of curare as a token of his gratitude. I have employed him several times since then and have always been glad that he was away when the Jivaros came. He turns out excellent batches of the flying death.

Of course, far and away the most dramatic aspect of the Jivaros' culture is their immemorial custom of the ritualistic shrinking of human—and certain animal—heads. The manner of doing this has already been too frequently described, and with too profuse a variety of head-reduction techniques ascribed to the head-hunters—who I suspect would be amazed at some of the things written about them. The ceremony, indeed, has been written up under every conceivable guise that would permit its introduction into any exposition—from political to expeditionary—on northwestern South



America, and by everyone, from those who commence their descriptive pyrotechnics with the betraying bit, "First of all, the bones are removed from the head . . ." to those few accurate and articulate observers who have actually witnessed some part or all of the ancient rite.

For the purposes of this narrative, it is sufficient to say that the head-shrinking business of the Jivaro is again based on the all-powerful survival instinct, life and death survival in this case. It is regarded by him in much the same manner as we regard our own complicated rituals relating to religion, sexual routine, and other basic matters which have with us become highly integrated with our present-day economic survival instincts. These, in the past millennium, have become as important to us as the simpler but more efficient instincts of the Jivaro are to him.

Specifically, he decapitates his slain enemy, preserves his head (he calls the shrunken relic a *tzantza*), and then uses it as the symbolic pivot of a pantomimic dance and feast known as the Festival of the Tzantza. The whole routine is carried through for an excellent survival reason. He wishes to "lay" the otherwise inevitably avenging ghost of his erst-

while opponent.* If he did not go through this complicated and, to him, costly and inconvenient ritual he might well be overwhelmed by the savagely nasty things which the otherwise wandering and "unlaid" ghost would lay by in store for him. Illness, crop failure, women-cannot-bear-a-man-child, other greater and lesser bits of jungle hard luck, and even death, might result.

So, once more, we find that unknown and uncounted centuries of jungle trial and error have given rise to this strange ceremony, and that it has been incorporated into the great fabric of magic into which is woven every detail of Indian life. It is the only way he knows of protecting himself against a danger as real to him and as wholly inevitable as taxes and charge accounts are to us. Because of both vital and economic pressures brought to bear upon him by his environment, he cannot escape the occasional killing of an enemy . . . even if he would. The tzantza business has been evolved for him as a sort of socioeconomic compensation and protection. It is by all odds the most serious part of his life routine, and most certainly is not done for any empty reasons of blood lust, senseless savagery, or definable sadism.

Were he able to compare, with any degree of objectivity, his festival of the tzantza with certain of our own socioeconomic superstitions, he might be even more convinced of the fundamental soundness of shrinking his enemies' heads.

* This does not agree with the idea, held by a few, that the whole tzantza routine is merely for purposes of enemy-degradation, coupled with a motif of continued revenge. I think the cessation of symbolism in the tzantza, after the final ceremonies, is one of the best rebuttals of the degradation theory—which has been advanced by only a few capable investigators, who, themselves, admit that it is questionable.

This note is as good a place as any to say that, since this is not an ethnologic report, many of the scientifically interesting details of the Jivaros' life routine will, for obvious reasons of limitation, not be gone into: couvade, the levirate, the various taboos, and other equally entertaining, but for our purposes inappropriate, ethnic rites.

At least, from his point of view, his motives are sound and demonstrably clear:

After the festival is over and the ghost has been properly and adequately laid, the tzantza has no more metaphysical meaning for him. He will give it away, turn it over to the local brujo, or trade it to some far-wandering trader. When he does keep it, he retains it only for its possible intrinsic value.

It symbolizes nothing for him, as our shotworn battle flags, for instance, do symbolize for us. I have often wondered just what an intelligent Jivaro warrior might think of that peculiar blood-lusty quirk of civilization which prompts us to erect and maintain permanent symbols of our own vast carnages fought with a cruelty, and for economic reasons, which the basically fair-thinking jungle gentleman would find great difficulty in understanding.

As a matter of interest to them, I have often tried to explain civilized warfare to Indian warriors, talking at leisure with them before their night-fires. And just as it was difficult to explain the system of monogamy to the Campas chieftain and make it appear sound, so I have had difficulty in explaining to the eminently practical jungle fighters just why we place images of soldiers in our parks, mount samples of weapons around them, and instruct our young in the maintenance of national hates.

If all that is so among your far people, they ask, why is it that we would consider so few of them, in our jungles, good and silent warriors? Why aren't all your men-children instructed equally in the use of arms? Why do your people slay so many of your enemies? Were it not better to slay just the ones against whom you feel you must take revenge?

It deadens our souls and our hearts burn low, the grim painted warriors say, that your soldiers fly over the villages

of your enemies—or so your words have been—and slay the women and also the children. Here, among ourselves, it is our custom to capture them, so that the children may serve us and so that the women, coming to accept us, will give us more men-children and increase our strength.

Further, they tell me, we do not hate our enemies in the way your people must. This is difficult for them to explain, since abstract hate is not always a word concept of the savage. We slay them because we need more women, or because they have first slain among us, or have otherwise interfered with our magic by opposing their magic to it and have made us ill. And most certainly—the fire-bronzed heads nod in slow agreement—we do not place in the center of our village the lance with which we have killed our enemy. That would be bad magic. It would keep alive the spirits of our enemies among us. We should rather do away with them. It would bring us bad luck and weaken the magic of our clans.

How can you answer men who, least of all men, are not afraid to fight for their survival, but are born unable to confuse the issue with dictators and strikes and political isms? It is very difficult, when they are so fiercely jealous of their own right to live that they respect that same motive in others and destroy their enemies only when they feel that that right to survive has been fundamentally interfered with. It is all a part of the differences, they tell me, between the magics of the red man and the white. And when I have been in the jungle for some time it is difficult for me to tell which thought-magic, as they call it, is the better. It isn't until I reach civilization again, and read the papers, that I think of ways of answering them.

And even then, when I am worrying over expeditionary costs, and checking and rechecking the hundreds of items which I, as a white man, find necessary to burden myself

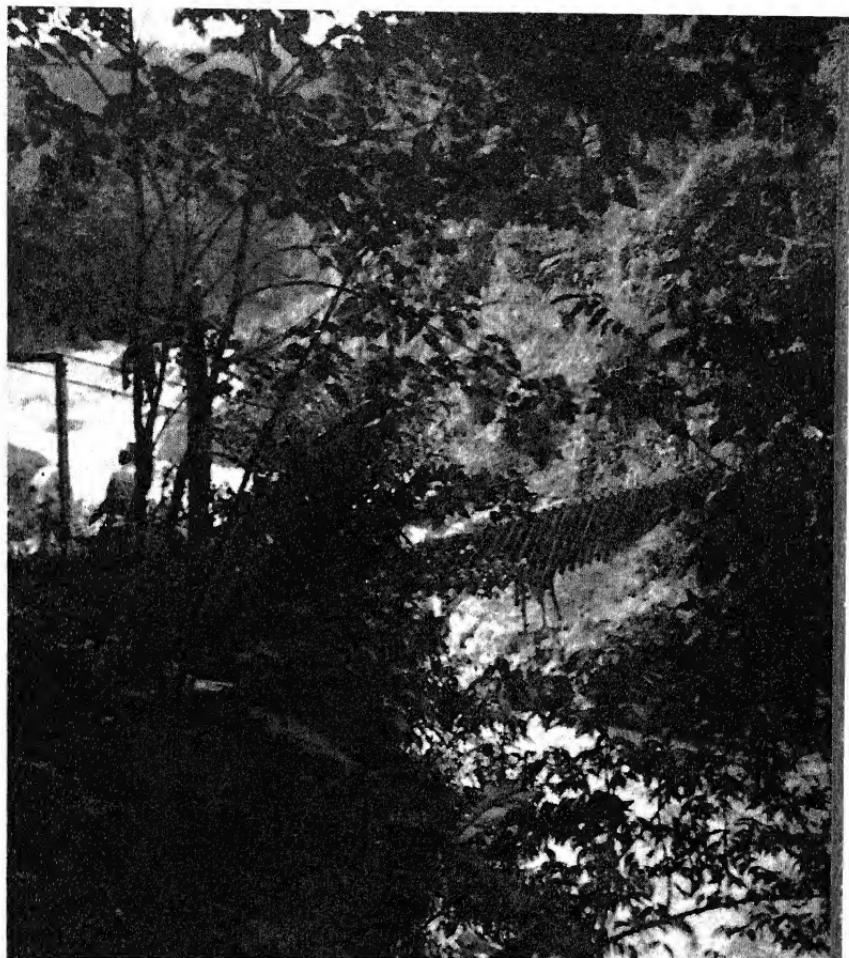
with in order to be able to visit the Indians in comfort and safety, I still think of their—to us—unattainable simplicity, even though I cannot wholly admire it and certainly do not envy it.

When I am counting and adding and subtracting and worrying over expeditionary details, I come near to envying one thing about the Jivaros and some other Indians who are similarly limited.

They cannot, and do not even have the necessary words to, count to more than ten. They have no need to. Who among them would be burdened with more than ten of anything? Who would have more than ten women, or ten lances, or ten blowguns? Two or three of anything are enough. Ten of anything would be a stifling burden. And *more* than ten . . . a man and all his women and children could not walk in silence along the trail and carry more than ten of everything, of the cooking pots, and the blowguns, and the low wooden house benches.

When at times there is more than ten of anything, trade beads, or *varas* of cloth, or lead shot for the muzzle-loaders, it is too great a number to bother with in definite form. It is easier and less wearing to say “Chikickiki . . . himer . . . manaidin . . . one, two, three . . .” and, arriving at ten, to make sweeping gestures and express your wealth with “coachat—much” or *ti coachat—very much*” and let it go at that. Or, more rarely, to indicate an almost distressingly superfluous number of articles by grandly saying, “As many as the grains of sand on the beach . . . as many as the leaves in the remo-caspi tree . . .”

It is simple and easy and, I have often thought, based in great part on the fact that primitive man has no pockets . . . and none of the psychic attitude which comes with the constant dipping into the pockets for those pieces of paper



and cardboard and metal which are the wherewithal of our daily lives. Rather, if what you trade with is carried in bulk upon your own back, you might well lose the desire to count beyond ten or to own more than ten of anything. Even that, for practical reasons, seems part of the survival instinct too.

Chapter Ten

Jatun Jatun Curaca!

Two of my most important and helpful Indian friendships were started, not in the inside jungles, but at the ranch itself. One turned into a real companionship: a pleasing sharing of experience with the young Cicigua, my first actual friend among the jungle Indians. The other was more of a sustained series of mutually co-operative enterprises, carried on under the strict protocol of the bush, with a powerful curaca. The first was an agreeable, knowledgeable, loyal friendship. The second started on a basis of trade and continued by virtue of a certain mutual respect . . . plus a kindly, if wary, tolerance on the part of the curaca. It eventually made me a witch doctor and led me directly into the search for the secrets of the flying death and the other witchcraft-laden drugs.

I shall not say as much about Manga Cicigua here as about the older curaca; Manga has already been the fictionalized central character in two books, and will—I hope—appear thus disguised again. When I first knew him he was just under twenty . . . but already a seasoned jungle man, the son of a minor chieftain in the northern Oriente and himself high in the council of his village. That was ten years ago.

Now, as I happen to know, he is a grimly hard jungle veteran, engaged in the running of a staple contraband across

one of the vaguely defined and bitterly contested frontiers deep in the great rain forests. It is an occupation accounted highly dangerous, even for a jaguar-quick warrior, but the returns in goods of the white man are high—and young Cicigua makes very sure that the goods he earns make their way in safety back up the long, white-watered rivers until they reach his family's clanhouse, weeks of slow travel away.

He is a lithe, arrowlike man, who goes about his business with incredible skill and speed. Even his own Indians, his clansmen who follow him, do not always know where, on that hard-bitten, mazy frontier, he will next appear. They call him *Illapa-rucu*, the Old-One-who-moves-like-lightning, although he is barely thirty. I understand that he greatly puzzles the frontier guards of two near-by countries. I can well imagine it. I have been in the bush with him.

Manga Cicigua was among the first Indians to ask for camping privileges on the ranch, when we were still building the casa grande. One evening, just before that rapid cessation of daylight which is sunset near the equator, the boy suddenly appeared behind me as I stood in front of the peon quarters talking with the prodigiously fat, multichinned Teresa. We used to call her the Tawny Behemoth.

Manga and his followers had come up to the quarters from the main trail so silently that I, talking, was not aware of him until Negrito, the middle-sized dog, growled, and Teresa looked past me and rumbled a Quechua greeting from her great and awesome depths.

"Maimanta shamungui, yumbu? . . . Where from, yumbu?" In Ecuador the mountain Indians are—with the strange defensive condescension of the very stupid—a bit lofty when they speak to the jungle Indians, who are usually of a much higher type. Invariably they call them yumbus, an ancient word now used in a derogatory sense.

"The north." The boy's keen, finely drawn face was a

mask. In that country he might just as well have said, "Europe . . . someplace."

Teresa's jowls quivered in seismic waves under the impact of the wooden answer and nearly burst her tight, red, greasy beads. Then she broke forth in a torrent of unwise questions in Spanish and Quechua, peppered with coy side remarks to me.

"Aie-e-e . . . patroncito mio . . . what a pretty boy . . . y con verguenza . . . he's bashful too. Listen, little yumbu . . . where from in the north . . . are you trading . . . what do you want . . . have you come to steal . . . how many come with you . . . speak up for the patroncito who is listening! Carai, patroncito! . . . shuc sinchi cari huambra . . . what a strong little boy . . . and not a word . . ."

Manga Cicigua suddenly smiled an odd half-smile. I was to see it many times later. Whenever the rapids were bad, or the going was the hardest, or something happened in the bush that shouldn't happen, the boy smiled in that grimly stilted way. Then we always got through. It was never the naïve, meaningless grin of the ordinary, amused Indian. He was never, somehow, just an Indian. I liked him greatly from the first.

"Ñuca yuyac jatun-mama . . . Oh, my very ancient grandmother," he said, and emphasized the *jatun*, which can also mean large or fat, "thy fat betrays thee. Only thy tongue is active. Among my people we would make a meat *champu* of thy . . ." He briskly named those huge and quivering parts of the cook which might lend nourishing fat to the stew.

"Now I talk to the patrón." Still smiling he turned slowly from Teresa, who was choking and coughing in her rage. Oddly enough, she always seemed to like him thereafter.

His Spanish (picked up on trading trips) and my Quechua were equally halting, with the odds on his Spanish, but we



managed to understand each other. Could he, he asked, make his fire upon my land that night? He and his men and his woman would eat and rest. Tomorrow they were going to Baños to trade their goods, and also to deliver some words-on-paper to the *teniente político*. They would leave early. But tonight they would rest upon my land. The patrón says yes?

The patrón said yes.

After that, I knew it was all right for me to look over his companions. He had three men with him, carrying their articles of trade in hand-braided wicker pack baskets. He, himself, carried only a small cloth bag in addition to his blow-gun, with the mouthpiece carefully stoppered with kapok, his chest quiver of long slender darts, and a chonta-wood staff upon which a green, evil-eyed parrot rode in silence. Behind his men his woman stood looking at the ground.

She had a light pack on her narrow shoulders and carried a young baby, half suspended from a cloth sling and half astride her hip. A tiny, slim brown doll, she was barely fifteen. Though she was better to look at than most jungle women, like all of them she stood pigeon-toed and ill at ease in the presence of strangers.

I felt that I wanted to know this boy who seemed so alert and so ready with his Indian humor. After dinner I went out of the house and found his camp . . . a small fire burning about a hundred yards away from the peon quarters, at the wooded edge of a pasture. Inside the small, palm-thatched lean-to—thrown up with the magic quickness of Indians on the trail—his three men were lying like poncho-wrapped mummies. In one corner his woman sat silent, her closely wrapped baby beside her. Manga, squatting beside the fire, stood up when I came near.

He looked steadily at me for a long minute, his lean face thrown into high relief by the fire. After that he spoke. "It

won't rain tonight, I think. Does the patrón want me to leave?"

I told him that I didn't think it would rain either, and that I didn't want him to leave. Then he reached out without a word and took the acetylene hand lamp I was carrying. He looked at it closely, tried the hot, darting little flame against a bit of stick, and handed it back to me. "Acha . . . que candela . . . what a fire it makes. Sit down, friend, and give me a cigarette."

After we had talked for an hour or so, and had smoked a great many cigarettes, I learned a lot about him. How his father was the head of a small village, some distance down from the beginning of large canoe navigation on a sizable river to the north, and was now a very old man. How Manga, young as he was, might be the next curaca, and how he was already making trading trips for his clan. He told me other things too: about his people, about the missionaries who had talked to them, and about certain men in launches who occasionally went down the river and from whom the Indians hid their women and their gold.

Then I told him about myself: why I was there and—taking a long chance—some of the things I wanted to learn from his people.

He nodded at the little fire and said yes. Then he told me he had already heard about me, about the queer franzi who had built the largest house in the Pastaza valley, and who had led water into it to bathe with, and whose woman kept her fire in a big, square, iron box, and cooked on top of it. In fact, he said, some of these things he would even like to see. But now he would rest, for very early before the sun is there—in the darkness he pointed low toward the east—he and his men and also his woman would go to Baños.

I told him all right . . . and that he could always make his fire upon my land. Then I asked him to spend a day with

me on the way back to the north from Baños and I would show him some of the things he wanted to see. Also, I would let him shoot with my rifle if he would teach me his blowgun.

He spent two days with me and, unlike most of the Indians, did not regard as magic the radio or the Coleman gas lamps, the kitchen stove, or the various end results of the running water. Rather, he took them all in as various tricky aspects of a kind of white man he had not seen before. Many of them he obviously regarded as useless, possibly even dangerous, encumbrances. He politely refrained from telling me about that, however.

The Niña meanwhile adopted the little sloe-eyed jungle Madonna, who apparently could not speak a single word of Spanish, and took her on a tour of inspection. Whatever she thought of the white man's contraptions we never really knew. She never spoke a single direct word to either of us, though, as the Niña told me later, when she showed the girl her bedroom the child put down her baby for the first time. She examined the taut, rawhide springs and the heavy kapok mattress in great detail. Then, still without a word, she gravely bounced up and down on the edge of the bed for a moment or so.

We rarely saw her afterward, for Manga preferred to make his trips alone or with just his men.

With several more visits—for those things go slowly—the boy came to trust me, and we formed between us those odd loyalties of wilderness friendship . . . an attachment that is both faith and wariness. He was always delighted with, and usually baffled by, any major mechanical contrivance. He was also unendingly pleased with the small gifts I made him from time to time, and enthralled with the stories I told him of my own people and their manner of living in their great villages. All of it he found hard to believe, and quite a lot

of it, I suspect, he could never really bring himself to accept, even from me.

Meanwhile I learned much from him. In exchange for lessons on the various kinds of firearms—he was familiar only with the primitive muzzle-loading shotguns used as trade goods—he taught me the use of the blowgun and the poisoned darts . . . and smiled slowly and gravely when I missed easy shots, the making of which would have been instinctive with him.

We were often together for the next couple years. His words about me among his people stood me in good stead and made the business of trading and getting carriers far easier, and much less expensive, than it otherwise might have been. Also, he brought me many gifts, both trophies and animals, carefully explaining the lore of each and taking a deep pride in my pleasure at receiving them. In the bush, whether hunting or on a field trip, he was an unerring guide and mentor. Nothing in all the jungles seemed to be hidden from him.

I have never ceased to marvel at that uncanny sense by which the average Indian pieces together bits of evidence, on the trail, to form a complete picture . . . evidence usually far beyond my own power to feel or hear or smell, or even see. Young Cicigua, the most skillful tracker I have ever seen, was apparently most casual in this method. Every Indian glides, shadow-silent, through the tangled green of the jungle with an air of almost unobservant carelessness. But Manga seemed never to be looking directly for those faint signs which guided him without error. His face expressionless, the boy's eyes roved continuously ahead of him and above him in the treetops. He never walked, head bent low over the trail, with that air of agonized searching for marks which most of us find so necessary when we attempt to guide ourselves.

And now, these few years later, he is already an Old One, the Old-One-who-moves-like-lightning, and goes silently and swiftly about his own jungle business. He is known in many of the clanhouses in the Oriente, and would make me an excellent, permanent field employee. But we both know that the mazy, sometimes dark, affairs of his people are more important to him. I rarely see him any more. It is probably better so.

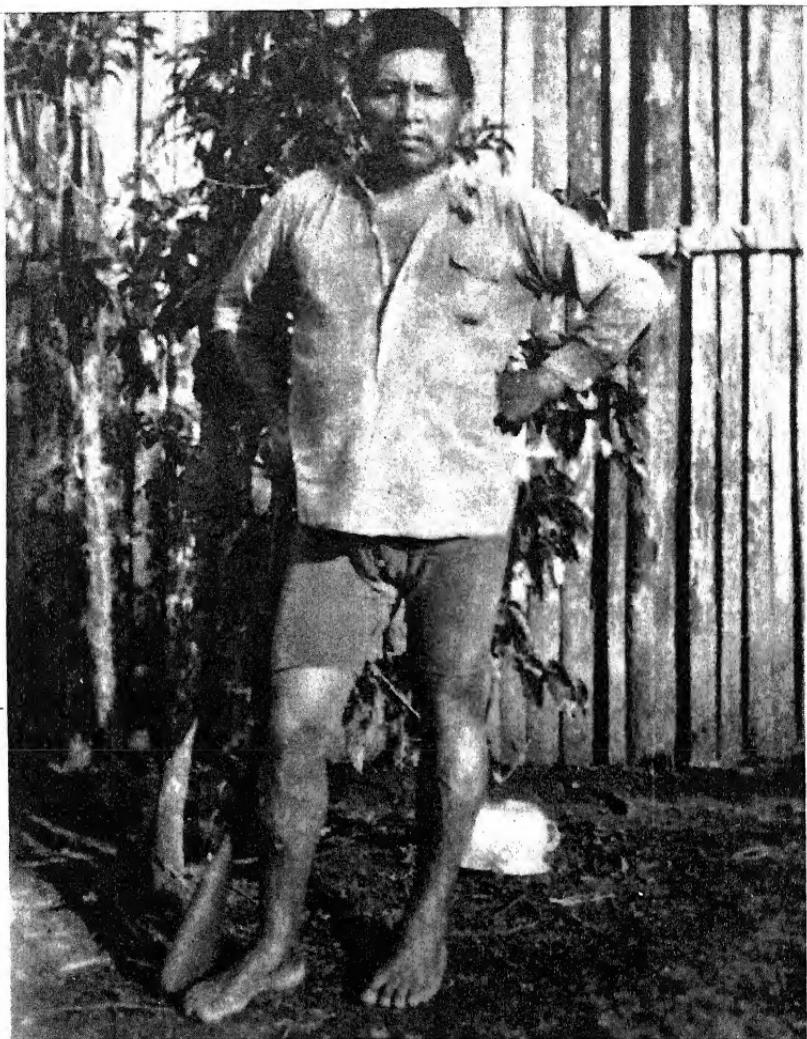
With León Aguinda, the wily jungle chieftain and politician, the thing was very different. León Aguinda, incidentally, is not his real name any more than Manga's name is Manga. Of all the Indians I have ever known, they in particular would like it better that way.

Manga, however loyal and instructive, was after all—even for the jungle where knowledge and experience is gained quickly or never—still a young man when I first knew him. Only a short time had passed since, by Indian ritual, he had become a man . . . had acquired his man-weapons, had led his own man-voyages (trading trips), and had taken his woman.

León, when I first knew him, was already past forty and a powerful, well-established leader among the scattered peoples of a large area of wilderness. He was a true feudal lord, a canny trader, and a born expeditionary guide and native personnel man. For years before I met him he had worked for and with—and from time to time against—occasional white men, mainly aiding them in expeditionary work. He was always reliable—when paid—and among those few who knew him was even sought after for his aid and general jungle wisdom. Invariably he attempted to overcharge the handful of whites who knew and employed him. He was especially exorbitant in his demands for a while just after he came to realize that money itself was just as valuable as trade goods.

That, however, was entirely in order. Price haggling is an essential part of treating with the jungle folk. It is also quite a bit of fun, if you can enter into the spirit of the thing. If you can't, you will find that even the most demanding of the Indians will promptly lose interest in further deals if their first asking price is meekly acceded to. Certainly the white man, fieldman, trader, or what not, who fails to beat down the first price for carriers by at least forty per cent loses so much face that his future travel in that particular region is forevermore a doubtful and trouble-beset series of transportational mishaps. Once the Indians realize your inability to cope with their own high-pressure "pay or be damned" commercial forensics, you might as well do your field work elsewhere. The next time you attempt to arrange for carriers, let us say, you will find that the price has been doubled. The time after that it will have been tripled . . . and, once having lost control of the situation, you can literally rot in the bush and not an Indian will stir unless you can pay his most fantastic price.

For a while, when he first learned about actual currency, León reached a state of commercial development which I have often seen before. During that period he consented to receive money instead of trade goods. But he was still hampered by his original prejudices against a mere piece of paper which carried on it the probably dishonest thought-magic of the white man, or the small bulk of a few metal coins, as opposed to the satisfying embonpoint of a roll of trade-goods cloth. Hence, in the beginning, he made some curious demands. For example, to complete a piece of work he might demand a roll of linsilla cloth (worth possibly forty sucre) or else a hundred—or whatever number he thought of first—sucres counted out to him in one-sucre coins. (The sucre today is worth about seven cents, by the way.) It took him a full year or more to adjust his ideas of the value of currency to the flashing bulk of cheap print goods, or gleaming,



cheaper knives, or boxes of bright beads for his womenfolk.

In any event, León Aguinda was—and is—a striking jungle personality. He is of mixed Indian blood, half Jivaro and half of a neighboring tribe. Owing to the Jivaro strain, he is taller than the average Indian—and possesses one of the most interesting faces I have ever seen on any man. Every inexplicable paradox of the wilderness is in it.

It is moon-round, and yet creased and furrowed by the things of the deep jungle. It is as stolidly impassive as the

face of a bronze idol, or it smolders and then quickly lights up with the dramatic fire of the born teller of tales when he occasionally unlimbers and spins his yarns as all old-timers must from time to time. He can also achieve a look of gnome-like pathos as he blends a heart-rending and impossible tale of poverty with a demand for an amount of pay that is more ransom than wage. But when he commands his people, or sees in his jungles that which he doesn't like, his cold eyes are dully polished black obsidian, and the furrows in his round face seem to shrink, all together, into the deep intaglio of his grim, straight mouth. His men move quickly when he speaks.

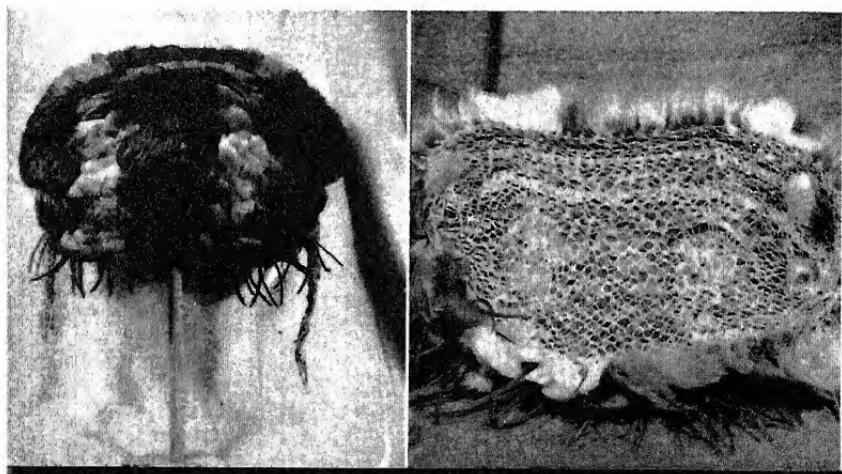
Like all good Indians, he has had his troubles. He has more than once run afoul of the local federal authorities and has had occasional difficulty in collecting the agreed payment from an expedition for which he has worked. For that he bears a grudge—not against all white men, as most of his race would, but, logically enough, against only those he feels have cheated him. From time to time, when he thinks about it, he has assured me that he knows just what to do if those particular individuals should ever find themselves in his territory again. And he *does* know. I have always been careful to pay him off to the last cent or the last gilt bead. He exercises a peculiar dark power among his people.

León is by way of being a wilderness linguist. He speaks both the Quechua of the mountains and the Quechuas of the north and central Oriente, as well as the Jivaro tongue and the odd dialects of other more remote tribes. His Spanish is delightful and reminds me, somehow, of the wild, twisting rhythm of the Andean pentatonic music. Like most Indians who can use that language, he speaks entirely in the present participle, every verb ending in "ing" without reference to time, person, or number. It gives a liquid, running effect to his tales of the Old Days and the Old Ones in which

—with an evermore sort of quality—“. . . and so he shooting and they running . . . while she always weeping . . . and I tomorrow watching as many years ago I watching too . . .” Also it blends beautifully with the few sweeping gestures of the jungles’ limited sign-language.

Because of his Spanish, he has two titles. The Spanish one is *El Pastor* . . . the flock leader. That is quaintly bucolic, and I can rarely bring myself to think of the hard, wily man by that Watteaulike, unfitting term. Instead, the simple word “curaca,” which his henchmen call him, is much more suitable. It is an ancient word, used by many different Indians, and means no more than chief or leader. Once, long ago, it also used to mean the mightiest animal of any given kind. Among his people he is all of that.

And it was through León Aguinda and his influence over his jungle followers that, after I had known him awhile, I became an accepted brujo among his non-Jivaro people. Instead of a diploma, I received a headdress . . . a fiber network upon which matched feathers from the toucan and the macaw are fastened with hundreds of intricate lacings. Violently red in color, with a black stripe running through its middle, it is soft and fluffy to the touch. Since only certain feathers from any single bird are used in its making, scores of birds were killed that I might have it. I have kept it in the States for years, and instead of the jungle it now smells heavily of moth balls. I have always been proud of it.



There was little valedictory when it was given, and no applause, which made me very glad. There should not have been. I still blush when I think of the kind of magic-of-the-white-man I showed to the simple, kindly people who accepted me as one of them—only just a bit different—with trust and hospitality. Instead of a brilliant platform and a parchment with a ribbon around it, a small fire burned redly. A tiny pinprick of flame in the great night which reached solidly up to the half-open walls of a little house until it became the leaping shadows behind the seated Indians. A lean hand held out to me the mass of red feathers, clotted and shining in the firelight. A winding voice said, in Spanish and Quechua, "It is yours, we think. We have seen your magic. It is good . . . but there is little of it that we need. Of ours, you have seen somewhat. You will learn more . . ."

Later, when I talked it over with Aguinda, a grin cut its way across the furrows of his face. He had, of course, arranged everything for me. As he said, it was the best way, possibly the only way, of really learning the medicine lore, and the making of the flying death, among his people. It wasn't that part, however, he smiled about. It was my own exhibition of white man's magic. Whether his people did or did not, he knew quite enough to make him smile.

To him a flashlight was only a flashlight, not a magic tube for bottling up the rays of Inti, the sun, during the day so as to release them, strong and yellow-white, at night. A field radio did not carry on conversation with whatever gods and devils I might have. It was just a tricky piece of white man's machinery which he, the mighty curaca, could easily have explained to him if it were ever worth his while to know. And the simple chemistry of turning a glass of water into a glass of blood and then into a glass of cloudy milk was much more useless in his wise eyes than it was potent. Now, if the blood

had been blood, or if you could drink the milk, that would have been something else again. It was all right for his jungle-bound tribesmen, but *he* had known various white men and their ways. He had been on an expedition or two; he had been arrested at least once; he had been to the capital and had received presents from the *yaya coronel*, and the *señor ministro*, who occasionally sent soldiers scouting up and down the rivers.

Even the fact that I could wave my hand (with luck, practice, and a thin, sealed capsule of titanium chloride) at a cold-water stream and make it fume and smoke like the heart of El Reventador, the volcano, left him unconvinced. Nobody was killed or made sick or cured by it. The water didn't even really turn hot. So he smiled paternally and wisely . . . and saw to it that his people accepted my magic and showed me theirs.

It was another of the ways in which the bush-tangled world of white water and black magic was made more open to me. But the final separations of the illusions from the realities, of the petty magics from the usable jungle drugs was—and in some instances still is—a long way ahead. They needed unending work and observations, correlation and re-correlation. That was the part in which even the mighty León couldn't help.

Years later, when our trails last crossed briefly, Aguinda, nearly sixty, was an even greater man and mightier curaca. He had recently emerged from a half-sulky jungle retirement among his people; he had been getting well, he said, from a bit of a wound. It wasn't the wound, however, that really bothered him. It was the way he got it. After he told me the story, and after I saw what was in his eyes as he talked, I understood how he felt. I could also imagine what would happen to the man who shot him rather than pay him a

long-owed debt when sometime, on some trail or on some beach, León runs into him. He knows who he is. I should hate to have it happen to me.

The thing had happened some months before, while he was camping on a river beach with his latest wife and two or three men. A revolver had been held close to the Old One's head; within about three feet, if the powder marks on that tough, brown skin spoke the truth. The bullet bashed its way entirely through his head, entering beside the right nostril and tearing out at the back of his neck. It would have killed any three other men.

Quick as his Indians were—and quick as the terrifically wounded man himself was—the dark figure with the gun got safely away down the river in the blackness of the night.

Aguinda, who was on a trading trip, continued his journey. In order to get a white man's cure, he traveled considerably over three hundred miles, with blood, serum, and brain matter oozing through the dirty cloth his woman kept around his head. Part of the way was by canoe. After that he walked, as most of us have forgotten how to walk, up into the Andes to a point where a motor road begins. There he left his followers, even his woman, and, barely alive, rode to the capital in a motorbus crowded with the peons he despised. In the city, where he had some friends, he was apparently well taken care of and, to everyone's amazement except his own, he survived.

Today he is as well as ever, as quick, as cunning, and as ruthless as before. The only noticeable effect of the wound is a slight slurring of his speech, since the bullet crossed his hard palate. It made his soft, running Spanish even more quaint when he told me the yarn. I can still hear him: ". . . and I, walking out, not feeling so good, amigo . . ."

Even for a jungle man, that was literary restraint!

As I write this he is, I imagine, one of the most powerful

Indians in all the great Amazon country. That is saying a great deal, but when I last saw him he had amalgamated his influence over both the Jivaros of that region and the other contiguous Indians whose blood he bears. This, in part, was owing to the fact that he was finally co-operating with the federal authorities, who are rapidly establishing military outposts along the rivers of that large territory, and León and members of his immediate family furnish the carriers and bogas upon whom even the military is dependent, and guide the scouts through country which only he and his people know.

He is now called *Jatun Jatun* Curaca, which means Great Big *Great Big* Curaca; his bailiwick is measured in thousands of square miles; and—behind the backs of the far-scattered outposts—his powers over his remote tribesmen are weirdly formidable. Also, he is becoming a wealthy man. Wealthy, that is, for the jungle, where wealth is not too savagely sought and even not always too desirable.

When I last saw him, he made a great gesture . . . and was delighted with it. Knowing the man, I know the sort of pleasure he got from it. It was one of the minor climaxes of his career, on the commercial side. Without haggling—acting about the thing as a new white man might—he bought my entire stock of trade goods at my own first asking price. They were left over from a trip, as I was coming out of the bush, and were of no further use to me at the time. I gasped and, worried for a moment, was about to lower the price myself. Then I understood, and let him take the moment to himself. He paid me in white man's money, in greasy, long-folded bills which he fished out of a monkeyskin wallet carried by one of his younger brothers. He, *Jatun Jatun* Curaca, didn't carry the stuff himself.

Then we said good-bye, and he made me promise to bring him down, when I returned, a new shotgun, a knife-of-steel-

which-does-not-spot, and some other odds and ends. He also made me promise, as he has done before, to take him for a visit to my own land . . . if ever that be possible. He wants, he said, to ride the trails of my country in the trains of which I have shown him pictures.

He will come with me, he tells me, not as a curaca, not as an Amazon chief, but unarmed and wearing the shoes and clothes of the white man . . . to learn what more he can of our villages and our not-too-magic ways.

And someday if Supay, who rules the seamier side of the jungle, is good to León—and to me—I shall bring him briefly to this country, if there is any way it can be arranged. But I know the proud, wily, powerful man. With an ill-fitting suit, and his splendid jungle-hard feet in wide shoes, he would still be the Jatun *Jatun* Curaca, even while he felt depressed and somehow disappointed . . . and questioned, with the graveness of a chieftain, the wisdom of our ways.

Chapter Eleven

Introduction to the Flying Death

From the very beginning it was more Curaca Aguinda than anyone else who started me off on the subject of primitive curare in Ecuador, and it was he who gave me my first lessons in the witchcraft-entangled lore of its making and use. I came to know Aguinda almost as soon as I had the young Cicigua, and really worked with them simultaneously for some time. Manga, however, was more of a companion than León and, of course, lacked much of the Old One's experience. The curaca was profoundly wise in the lore of his people, and held it in great and knowledgeable respect. Also—and this is uniquely useful—he was able to evaluate it from the point of view of the white man. While he rarely undertook anything in which he did not ultimately profit, his work was always intelligent and usually even generously adequate.

Curare being one of the more jealously guarded secrets of the wilderness pharmaceutical profession, a seemingly long time was necessary to arrange a sufficient background of fundamental knowledge on which I might base future research. The start was slow, even with the commercially-minded curaca.

We had always offered trail hospitality, shelter, safe camping, and odds and ends of food and tobacco to León and his

followers whenever they passed the ranch on their seemingly endless peregrinations. Several times we had bought jungle trinkets from him. One day he offered us a beautifully colored macaw—later to be unimaginatively named Rosy by us—which we purchased after a prolonged period of terrific haggling. When the purchase was finally completed, I presented him with a new and shiny Boy Scout knife—practically a pocket tool chest.

It was just the moment for a gift. On an earlier visit, I should have lost face had I given it. But now, after the big deal in Rosy, it had to be regarded as nothing less than a sincere offering of friendship.

Three days later he was back with a *llapa* (good-will offering after a purchase) for me, a nest of fragile, decorated pottery bowls made by his people. Not to be outdone, I gave him a half dozen snelled fishhooks. And thereafter his frequent visits were a constant exchange of gifts, “como entre hermanos . . . as between brothers,” which netted me a valuable collection of trophies, blowguns, arrows and quivers, gorgeous ceremonial headdresses of brilliant toucan and macaw feathers, ritualistic braids of the brilliant and iridescent wings of beetles, wristbands, and bandoleers of monkey bones for personal adornment—if you’re an Indian. It was quite a drain on my scant beginning stock of minor trade goods which I tried to keep on hand, but his offerings were worth far more than the fishhooks, bar lead, occasional pocket canisters of black powder, nails, brown-paper cigarettes, and other trifles with which I parted.

Most important of all were the long evening talks in my study, already hung with jungle trophies, while his *gente* camped over by the peon quarters. The shielded light from the desk gas lamp would throw his round face into pleasing relief as he told me for hours of his people and their lore. I learned more from the really affable curaca, from certain

points of view, than from any other Indian with whom I have ever come in contact. And that despite the fact that if he had ever once felt he could not trust me, I should quite simply never have been able to see him again. There was nothing of Manga's youthful, feral loyalty in the old chieftain. It was all a matter¹ of mutual respect, and the rigid protocol of barter. However, he shared with me completely his native and even intellectual interest in the tangled bush in which he had passed his colorful life.

In fact, during these same nights at the ranch, when he and his followers camped on my land, I first commenced to establish myself, in some of the ways I have already mentioned, as a subspecies of brujo among his people. Somehow the old man liked the idea, and was amused by it. Also, he had a healthy respect for certain of the more practical aspects of the white man's magic.

So it was somewhat as a kindred spirit that I finally requested from him the full story of curare, as made and used in his region, plus a thorough demonstration of it in every phase. His round face was as noncommittal and changeless as that vast, lush territory whose primitive politics he sways, as I spoke to him as nearly as possible after his own fashion:

"Hear me, brother! For many, many tender moons have I known many parts of thy land and thy people," I said, employing the Spanish *tu* form as is mutually customary with the jungle people. "And for the moons just passed have I known thee like a brother. I have not come among thy people like the men who change thy gods, nor like the warriors of the white man who damage thee and thy women and make rules which are not the rules of the jungle, nor yet again like the traders who leave thee guns which explode in thy hands and knives which bend at the first thrust. Now that I have shown thee my magic, and thou and thy people have told me of thine, and I am as a brother, and thy peo-

ple sleep with peace on my land, and thou knowest I, too, know the fire-tales of the white-haired *jatun-mamacuna* and the *yumbucuna*, and the night calls of the *cucucuna*. Now, I say, that these things I know well, there is one more thing among thy people, and now mine, I would know . . .”

Thus I at last tackled the curare question. I asked León to return shortly with a group of his people, establish a semi-permanent camp on my river beach, and stay with me for as many days or weeks as he could. The hills immediately behind my place abounded with the sort of game most appropriate to the use of curare and the blowgun. To him it would mean an era of prolonged hunting and feasting, with plenty of maize, yucca, bananas, *raspadura*—crude sugar cakes, *machica*—toasted barley flour, monkeys, and other game.

For an appropriate amount of goods and food, El Pastor consented. To me it meant an opportunity unique in my field work: an encampment of friendly Indians who, during their stay, would go through all the routine of their jungle life except actual warfare expressly for me. I felt that it would be a better and somehow a richer experience than any mere visit to an Indian village such as I could make in the course of any ordinary field trip. On my own land I could within certain limits guide the routine of the Indians and lay emphasis on whatever aspects of their living I wanted to observe in greater detail. As it turned out, I was right.

That night I went to bed feeling that I had been left a fortune, and dreaming as a small boy might who had suddenly been told that a whole zoo or an entire three-ring circus was to be placed at his disposition for days on end.

The time passed in a curare-laden haze until one afternoon, a fortnight after I had made my request to the genial León, Joel, my houseboy, dashed into my study to announce that the Indians were returning.

"Llega el curaca Aguinda, patrón, con gente y armas y . . . here comes curaca Aguinda, patrón, with people and weapons and . . ." he panted, and pointed across our lower *potrero* to the Pastaza Trail visible against the "bush" which fringed the river beach.

Sure enough! Outlined against a backdrop of swaying apple-green bamboos and feather-tipped *caña-brava*, I saw the gleam of copper skins coming up the black-sand trail with the slow, easy, free stride of the jungle folk. Five minutes later I gave the hand of El Pastor the usual once-up and once-down handshake, and, taking care not to glance directly at the several women and children who accompanied the little train, smiled and nodded to the impassive men, whose faces bore their regional marks in the brilliant red of achiote pigment. Shortly afterward, I introduced indelible pencils as face-paint implements into that part of the country, and thus doubtless put quite a regional crimp in the use of the traditional achiote.

Three hours later, when the rapid tropical sunset was darkening the green-laden hills which swept away from the river valley, and the last parrots of the evening had long since flown low over the jungle like so many raucous flames, the gente de Aguinda had completely established themselves in their camp. To look at it, the palm-thatched huts might have been there for weeks instead of having been just put together by the uncannily rapid machetes of the visitors.

The best I had in local fare was spread before them, and the silent women set about preparing it. The orange flames of the two cookfires threw black, leaping shadows on the hut walls in the deepening dusk, and I noted with satisfaction the glint of polished blowgun tubes and the faint outlines of arrow quivers beside the huts. Two youngsters, one a dark little Indian toddler, played with a baby woolly monkey beneath the quivers of darts tipped with the flying death,

and Aguinda himself surveyed the camp, already settled into its own routine, with the baronial, keen impassivity that befits a curaca.

In the days of hunting that followed, I plodded and panted, and yearned for additional rest periods, as I followed the Indians back and forth among the hills beyond the ranch, between the Pastaza and the Topo rivers, and along the Suñac Stream. To me the strenuous hunting was, of course, an extremely fascinating adventure; to the Indians it was merely the customary pursuit of their livelihood, and was somewhat hampered, at that, by my amateur presence. But they were patient with me.

Curare, the study of which was the object of it all, tinctured the hunting, the camp routine, and the fireside conversations at night. It was like the Cathedral in Hugh Walpole's novel, or Egdon Heath in *The Return of the Native*.

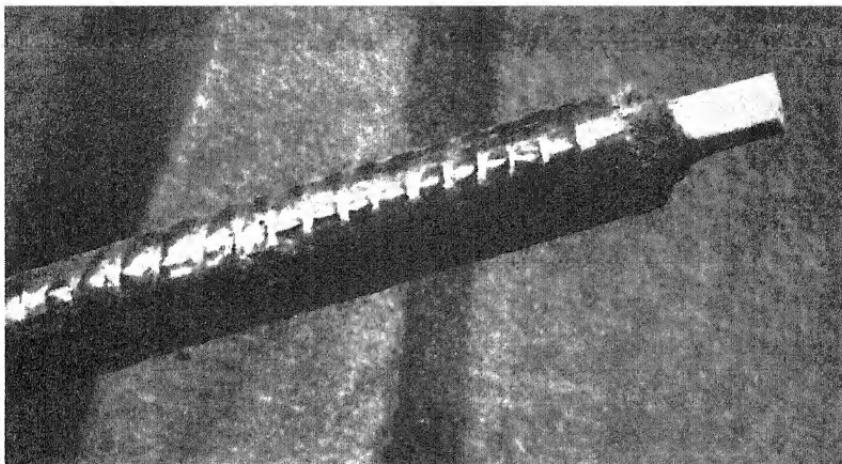
The things I first learned about the jungle background of curare, and the notes I first made about its curious lore, had to be changed and rechanged many times later. This was especially true when, after Aguinda's early lessons, I correlated the methods of procedure of other Indian entities with those over whom he held sway. The greater part, however, of the curaca's patient lessons were sound and in all fundamentals true.

When prepared for its most general use, as arrow poison, curare is in the form of a heavy, gummy paste, dark-brownish, almost black, in color. In the laboratory some of its isolated active ingredients range in appearance from a yellowish, amorphous powder to placid-looking little gray-white crystals. When the whole curare is prepared for clinical use in the grim fight against spastic paralysis (and whole curare is so far the only way in which the deadly stuff is really clinically usable) it looks, when desiccated and pulverized, like a

coarse, cloudy amber powder; when in liquid form and ready for injection, it resembles weak coffee . . . or straight, smoky Scotch.

Curare, as employed in hunting, is used almost exclusively with the silent, accurate blowgun, beside which, at least for hunting, the "Tommy" guns and "pineapples" of our northern gangsters would pale into noisy inefficiency. The blowgun is the favorite weapon of from one-half a million to a million and a half Indians scattered generally throughout northern South America. It is also used to some extent—with



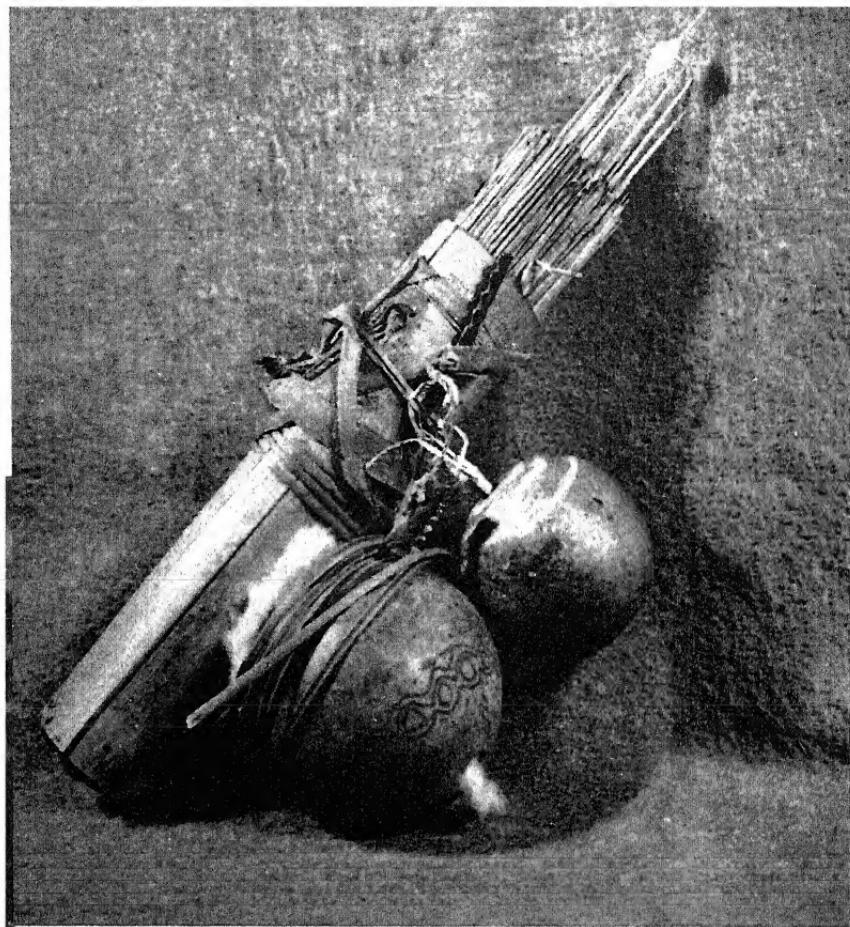


variations in its shape, its arrows, and the poison employed—in other regions of the tropical world.

The weapon used in the Ecuadorian Oriente consists of a long, slender, tapering tube, usually made of the metal-hard chonta wood. When the two grooved, semicylindrical sides of the tube are nicely fitted together and bound, and the mouthpiece (of the shinbone of a tapir or jaguar, if possible) is fitted in the butt end, three coverings are added. First comes a light layer of pitch. Next, thin bark is wound around like a spiral bandage. Then is added a heavy outside coating of pitch, brought to a glossy black polish.

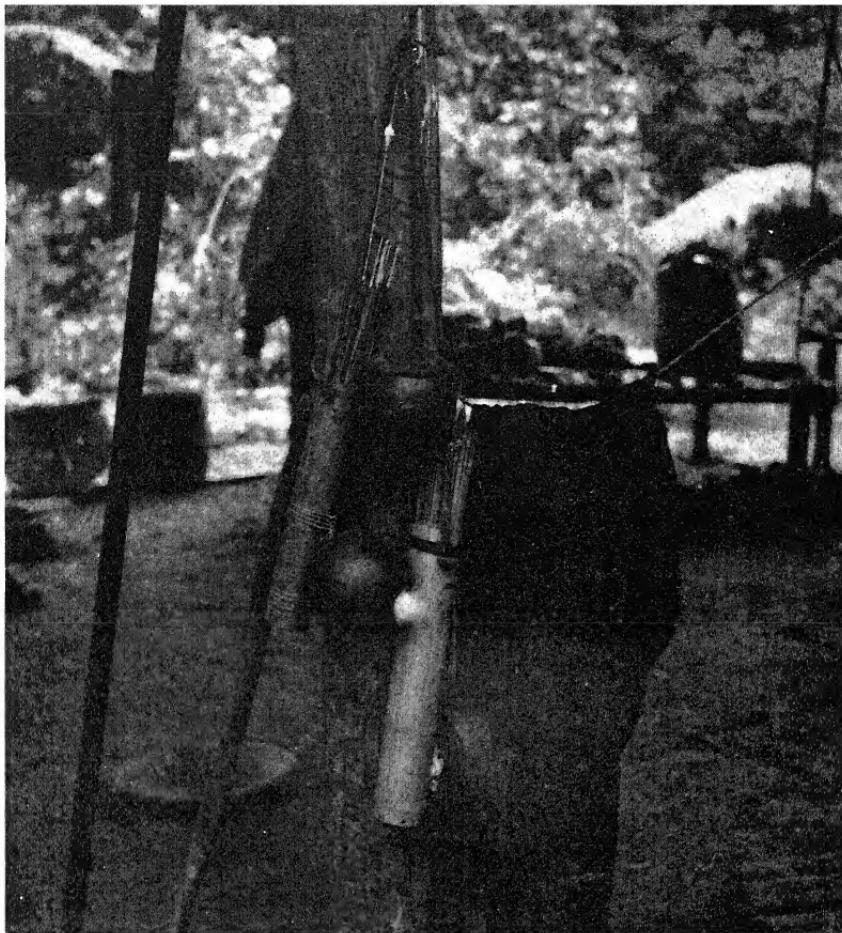
When the last deft sanding and polishing touches are given to the bore of the weapon, it is as shining and nearly as true as the inside of the barrel of a smooth-bore rifle. Curiously enough, the adult-size gun of this particular region is invariably just over nine feet in length. After generations of primitive trial and error, this seems to be the optimum size required to obtain the full, cumulative effect of the puff of breath that propels the arrow.

The arrows are only about ten inches long, and slightly thicker than the average pencil lead. They are carried in a quiver made of a section of bamboo, to which is often attached a piece of the jawbone of the voracious piranha fish whose sharp teeth are used in grooving the business end of



the dart so that it will break off and remain under the skin of whatever animal is unfortunate enough to receive it. In addition to a small gourd of poison, there is also attached to the quiver a gourd of kapok, bits of which are deftly twirled around the unsharpened end of the arrow to form an airtight plunger.

As was demonstrated to me during the days of hunting with El Pastor's people, the accuracy of the blowgun is simply uncanny. One can almost say that the practiced Indians never miss a normal shot at bird or beast, even up to distances as great as a hundred feet, which is about the maximum jungle range with either a blowgun or a high-powered



rifle. But, then, they have practiced all their lives. A white man is well-nigh helpless with the blowgun, although one may attain a fair degree of proficiency after considerable practice. Even with months of training behind me, however, I should hate to have to earn my daily meat with it!

Aside from the efficiency of the simple weapon and the astounding lethal qualities of the curare, I have always been impressed with the humaneness of this method of hunting. There is no pain other than the slight prick of the needle-like dart; above all, there is no escaping of wounded animals to crawl off into the bush and gasp out their lives in agony. On the other hand, I can imagine no more horrible death

than that of a thinking being who has received a lethal dose of the drug. As far as we can judge, the voluntary muscular system of the entire body is completely paralyzed—the utterly limp, flaccid, dishraggy kind of paralysis; the opposite of the rigid, convulsive, spastic kind. Complete consciousness continues until asphyxiation and the subsequent cessation of heart action mercifully draw the curtains of death across the victim's tortured mind. It is that period of conscious but utter helplessness in the face of an inexorable death which seems to me to be the most horrible few minutes any thinking being could imaginably face. Given a sufficient dose of curare, no power known to science, until recently, could save him. He would simply have to lie, an acutely aware mind in a rapidly dying body and, as we say, take it.

Among other things, Aguinda's early curare lessons began to demonstrate to me in tangible form the wrong symptoms universally ascribed to victims of curare poison in modern detective fiction. Later I was to see just how wrong they really are.

A mere skin prick by a dart laden with the flying death, and any jungle beast suitable for hunting by this method is painlessly dead in a matter of seconds or at most a few minutes. As far as was then ascertained, upon the injection of curare into the animal system, the abolition of nerve impulses inhibits all voluntary muscular action, checks respiration, and the cessation of heart action follows immediately after.

I have seen white hunters literally disembowel a giant red spider monkey, only to have the agonized beast crawl painfully off into the dense tropical foliage to elude its pursuers but not to escape a protracted and painful death. But when shot by a curare-tipped dart, the animal expires painlessly and quickly.



The meat of any game shot with curare is perfectly edible. Indian belief, which is now scientifically substantiated, holds that moderate amounts of curare taken internally do no harm and are not even absorbed by the system. In fact, some of my jungle friends lick small amounts of curare from their fingers as a stomachic. I have often tasted drops of curare from various freshly made batches of the drug and have eaten enough curare-killed animals, I suppose, to stock a moderate zoo. Indeed, the only precaution I have ever known an Indian to take is to excise the small area of flesh which the tiny arrow had penetrated.

Oddly enough, the Indian users of curare still seem to have better luck with antidotes for the poison than modern science has. That, as I now know, is simply because it is as difficult to make a modern, white-coated, clinical technician take intelligent cognizance of a savage rite as it is to make a dyed-in-the-wool jungle brujo substitute something evolved in a laboratory for his own traditional mumbo-jumbo.

Modern medicine, which within the past year or so has finally come to use curare successfully—when it can get hold of enough of the right kind—in the alleviation of some of civilization's most dread diseases, is still unable wholly to lick the jungle drug when lethal doses are administered experimentally to laboratory animals.* Mechanical artificial respiration helps somewhat; so do intravenous injections of certain substances which furnish immediate bodily energy to tide over the fight until the curare has been excreted. A certain proprietary drug called prostygmine is also injected into the body because it sets up symptoms which are the direct antithesis of those of curare poisoning. In other words, it increases spasticity—the opposite of the deadly flaccidity induced by the flying death.

The antidotes of the Indians are, of course, thoroughly mixed with their superstitions regarding the making and use of the poison. They represent still another instance where it is difficult to distinguish between what might be scientific truth and what is simply part of the shadowy ritual of witchcraft. In any event, in addition to the rituals connected with

* The question of wholly effective antidotes for a *lethal* dose of curare is—as this is written—being solved by certain clinical investigators with the use of various drugs which tend to produce antidotal effects, and more prolonged artificial respiration. The drugs cause the renewal of the supply of acetylcholine (the chemical mediator or “contact” between the nerve endings and the muscles at the myoneural junctions) which curare has knocked out; and the artificial respiration tides the subject over until sufficient curare has been excreted (which occurs comparatively rapidly) to relieve respiratory embarrassment.

its making, any Indian who receives a wound inflicted by a curare-laden weapon—which, incidentally, is a rare event—promptly incises the wound, ligates the area if it is anatomically possible, and smears ordinary trade-goods rock salt into the puncture. He also drinks a copious amount of concentrated salt solution and, unless the mechanical wound caused by the weapon itself kills him, he usually survives the effects of the curare. Further, when an Indian wishes to capture alive an animal, or more usually a bird, which has been shot with a poisoned blowgun dart, he adopts basically the same measures.

He immediately rubs salt into the wound of entrance, and prying open the unhappy victim's mouth or bill, he all but drowns the sufferer by pouring large amounts of concentrated salt water down its throat. Despite it, or because of it, in a great majority of cases the animal lives. This is one time when the jungle seems to have the edge on the laboratory.

Considering the extraordinarily deadly qualities of the flying death, when I am in the bush I am always comforted by the thought that the Indians of the Ecuadorian Oriente rarely use curare in warfare. The blowgun dart is impracticable for that purpose. An enemy can always pluck out the skin-piercing sliver and treat the wound by suction, excision, and ligature as if it were a snakebite. On the other hand, wooden spears used for lunging in ambush have occasionally been smeared with curare; and the Jivaro Indians frequently guard the sinuous runways leading to their clan-houses with skillfully concealed chonta stakes, sharpened and liberally coated with the alkaloid.

Poisoned arrows for purposes of warfare are among the most ancient weapons, and their evolution and use is still fascinating in this era of more efficient and larger-scale mass

killings . . . an era unthinkable in advance of the good old days of sheer savagery when women and children were usually spared and the killing of your personal enemy not only satisfied you but was done for motives hopelessly simple and childlike: you wanted to preserve your hunting grounds, or you needed a new woman, or you defended your home against a raid. To kill for the intangibles of political theories or for the maintenance of some industry or some part of a commerce with which you weren't even familiar wasn't dreamed of until the development of weapons adequate to slay at a longer distance and en masse. It is an ethnic truth that our civilization, and what we modernly accept as culture, is founded as basically on our lethal prowess as on any other single factor in its tortuous evolution. But poisoned arrows held their own until comparatively recent times and in many places are still the preferred weapon among our modern primitives.

Ancient classical literature contains many references to arrow poison, the primitive's most effective way of dealing certain death at long range. Homer mentions it (*Odyssey*, I, 260), as do Horace, Theophrastes, Virgil (*Aeneid*, IX, 772), Ovid (who speaks of arrows smeared with viper blood), and Claudius, when he mentions the Ethiopian arrow poisons. Even Apollo's darts carried "pestilence," and it is known that the Scythians used animal venom mixed with human blood in the chase or warfare. The subject is also mentioned in the Bible (Job 6:4).

Indeed, our present word forms for poison and the knowledge and use of them—*toxic*, *toxicant*, *toxicology*, *toxicologist*, *toxin*, and so on—are derived from the Greek word *toxon*, meaning "bow," as is the modern term *toxophilite*, which means "a person devoted to archery." Thus, the ancient idea of bows and arrows and poison was fused in a single word concept, symbolized by words of the tox- root,

and this association of ideas endured for years. It was not until about 60 A.D. that Dioscorides, a physician, first applied the toxon concept specifically to the knowledge of poisons, thus letting the bow-and-arrow part of the original root idea slide from the colorful glory of primitive battle and hunting into a musty, pedantic oblivion from which it is dragged only by the archery-wise or an occasional sports writer.

Arrowheads and spearheads with poison-holding depressions have been found, even in caves of the paleolithic period in France.

We are not at all sure just how prehistoric man first thought of increasing the lethal potency of his armament by poison. Three of the many theories are as follows:

1. That the ancients witnessed, and then tried to emulate, the bites of venomous snakes.
2. That, in trying to heal their wounds with the gummy exudations of trees and plants, they accidentally discovered noxious substances. This is called the latex-smear theory.
3. That they observed the occurrence of septic poisoning as a result of injury by a weapon bearing dried septic blood, and that this discovery led in time to the use of animal venoms and, later, vegetable poisons.

Still another school of thought holds that primitive warriors and hunters observed how various animals died as a result of eating certain plants, and that they consequently employed the juices of those plants on their weapons. Indeed, early-modern names of certain of these plants are still in rustic use among us, especially in England: cowbane (water hemlock), sowbane, wolfsbane, leopard's-bane, henbane, ratsbane. Neatly enough, the word "bane" comes directly from the Anglo-Saxon *bana*, murderer.

At any rate, poisoned arrows, because of their dreadful effectiveness, have continued to be used throughout the ages. The Celts and the Gauls employed them with telling results

and, as late as 900 A.D., the Dacians and the Dalmatians along the Danube used them in hunting and fighting.

Among the most horrible of poisoned arrows were those used until recently in the New Hebrides, where the natives smeared their arrowheads, which were made of human bone, with a mud later proved to contain Nicolaier's tetanus bacillus. Hakluyt, who "ghosted" Sir Walter Raleigh's voyages, also mentions symptoms of arrow poisoning which must have been tetanic.

Even modern military rifles have occasionally failed to repulse the savage with his merciless, silent arrow. In 1905, during a twenty-minute engagement, fifteen out of forty-five soldiers were killed by the African *fra-fra* poisoned arrows in French Soudan. And the fabric of our detective literature would be considerably weakened without an occasional and usually grossly inaccurate account of a murder done mysteriously, and oftentimes impossibly, with a poisoned dart from "somewhere in South America."

The history of the flying death is romantic enough, shrouded in mystery and made up of the humanly interesting accounts of early and late explorers, laboratory pundits who have searched for its antidotes, and medical men who are taming it to learn its therapeutic value.

The earliest obtainable English reference to curare is found in Hakluyt's romantic description of Sir Walter Raleigh's storm- and battle-racked voyages. In 1595 the doughty Raleigh, in ascending the Orinoco, comes to a great plain inhabited by four tribes of Indians:

" . . . the fourth are called *Aroras*, and are as black as negroes, but have smooth hair; and these are very valiant, or rather desperate people, and have the most strong poison on their arrowes, and most dangerous to all nations;

of which poyon I will speak somewhat, being a digression not unnecessary. There was nothing of which I was more curious than to find out the true remedie of these poysoned arrowes; for, beside the mortalitie of the wound they make, the partie shotte indureth the most insufferable torments in the wound, and abideth a most ugly and lamentable death, sometimes dying stark mad, sometimes their bowels breaking out of their bellies, which are presently discoloured as blacke as pitch, and so unsavoury as no man can endure to cure, or to attend them. [Sir Walter and his amanuensis seem to have lent an unnecessarily macabre touch here, since death by curare is apparently quite painless.] And it is more strange to know that in all this time there was never Spaniard, either by gift or torment, that could attaine to the true knowledge of the cure, although they have martyred and put to invented torture I know not how many of them. But every one of these Indians know it not, no, not one among thousands; but their sooth-sayers and priestes who do conceale it, and only teach it but from the father to the son."

From which rather morbid account it would appear that the Spaniards were at least earnest and aggressive in their curare-antidote researches!

And ever since the early distorted and exaggerated accounts, the exploring and scientific world has been actively interested in the Amazonian flying death. But, like so many aspects of that tangled, chaotic wilderness of north-central South America whose edges form one of civilization's last and greatest frontiers, much of the story of curare is still unknown to us. And many erroneous beliefs exist regarding the poison.

One of the most widespread of the many technical misconceptions of curare which still linger in the more static aca-

demic circles is that it is a strychnine-type of convulsive poison, whereas the antithesis is true. It is a powerful relaxant—too powerful in lethal doses! The formula of strychnine ($C_{22}H_{21}N_2O_2$) and that of curarine ($C_{18}H_{21}NO_4$) differ radically, but the erroneous association of the two persists, because early investigators classed one of the several genera of jungle plants from which curare is made in the *Strychnos* family (*Strychnos toxifera*, the best known), *S. crevauxii*, *S. castelneana*, *S. Gubleri*, and *S. triplinervia*. There now seems to be no doubt that this classification was in error. Unlike the African and Asian "strychnos" arrow poisons, which act directly upon the spinal cord, curare centers its action upon the motor end plates.

Alexander von Humboldt (1769-1859), often called the second Columbus of South America, whose *Cosmos* forms the basis of most of our modern physical geography, was the first modernly scientific eyewitness of one method of manufacturing curare. His simple account of the fundamental processes of the manufacture was later expanded by Sir Robert Schomburgk, an early explorer, into a more detailed account of curare making. In fact, we are indebted to Schomburgk for first having scientifically demonstrated that the actual curare poison lies wholly in the plant itself and not in any extraneous ingredients added by the Indians as a matter of ritual or tradition. It is unfortunate, however, that he committed what now seems to be the error of classing that plant as a member of the *Strychnos* group.

Information was formerly largely lacking on the different methods used in the production of the poison in various regions, and on its antidotes and its utility in modern therapy.

The recorded findings of the jungle-bitten academicians who have laboriously and riskily ferreted out curare's primitive secrets are scattered far and wide and are in many tongues. Happily, the archives of the Surgeon General's

Library, in Washington, D. C., to which institution I am greatly indebted, present an excellent collection of references.

And between the dry lines of scientific jargon in the various journals and books, some already yellowing with age, one catches a whiff of the jungle, sees the naked, wizened brujo bending over his bubbling pot of blackish poison, and sees a caoba dugout manned by bending coppery backs carrying a feverish white man down a winding tepid river. Again, one almost feels the oncoming paralysis and asphyxiation of the London servant girl who in 1889, while dusting some South American trophies belonging to her master, Dr. White, fell and drove a curare-poisoned arrow into her arm. Fortunately, she received a sublethal dose, but her hours of slow recovery made medical news at the time.

The word "curare" is of uncertain origin, and has degenerated into a term employed for all Indian arrow poisons from Panama down through the entire northern half of South America. The true curare, nevertheless, is widely used through many tribes of varying tongues and dialects in the northern Amazon country. Other designations applied to it are *curara*, *curari*, *urirarery*, *urari*, *wourara*, *woorari*, and *wourali*—this last being a Caribbean variant, due to that people's tendency to substitute "l" for "r." In several instances the formidable and widespread poison takes on either the name of one of the tribes which manufacture it or the place name of the region in which it is concocted.

The knowledge of poisons, and in fact the whole primitive *materia medica*, has always been jealously guarded by the medicine men, for it has largely been the basis of their influence among their tribesmen. And for that reason it has proved to be the most difficult knot for the exploring ethnologist to untangle.

Regarding the actual making of curare, there are almost as many conflicting accounts as there have been witnesses. This, I think, is due mainly—outside of inaccurate observation and the usual attempts to overdramatize anything which is seen in any jungle—to the different plant species and the ritualistic differences encountered in its preparation among various tribes. The superstitions and rituals which attend its making in one form or another concern the particular member of the tribe or clan who makes it, the enforced absence of pregnant women from the scene of manufacture, the avoidance of its fumes, the use of a continuous fire, the use of only certain cooking vessels, and the abstinence of its maker from all forms of salt and sugar. This last may be more than a jungle superstition, since research has shown that an intravenous injection of glucose is partially antidotal.

Reduced to its fundamentals, the process consists in making a decoction variously of the roots, bark, tendrils, and stem sections of the plant form used. This decoction is concentrated by boiling down, strained, and set away to thicken into a gummy paste. In some localities an infusion is prepared by placing the ingredients in a colander and repeatedly pouring the boiling water over them until the alkaloid has been extracted, then the resulting liquid is boiled down and allowed to thicken.

At other times, at the end of the long-drawn-out cooking process, the molasseslike, gooey, liquid gets "tacky," comes to a "point" something like the terminal stages of taffy cooking (which it really rather resembles). The brujo tests the surface tension of the simmering brew with the point of a blowgun arrow. If he can lift the skim, the stuff is done. This is all a delicate procedure because the curare, if it cooks a minute too long, can easily scorch. When it arrives at just the critical stage, and he catches it at just the right moment, the squatting, nervous red man announces his relief at the

end of the long vigil with an explosive "Yah! Jambi . . . !" You, who have paid for the stuff in weeks of body-racking and expensive jungle travel, also say "Yah!" . . . and with an even better reason.

The sticky, deadly paste is then stored for future use, almost universally, in small, finger-size tubes of bamboo, small earthen pots, or dried, hollow gourds. When the hunter wishes to apply it, he dilutes the paste, preferably with a fruit acid, until it is liquid enough for him to dip his arrowheads. When a sufficient coating of the curare has been applied to the dart, it is then stuck before a fire to dry. This insures permanent adhesion of the poison to the head.

There have always been questions about the lasting qualities of stored curare. Some Indians claim that deterioration starts in a matter of months, while others effectively use a tube of poison stated to be several years old. All of them, however, adopt varying means of "renewing" poison which has been stored too long, and whose potency may have been diminished. I have tested samples of curare about nine years old and have seen that they retained their full lethal power. Dr. Morton C. Kahn, of Cornell University Medical Center, has some curare which he collected in British Guiana in 1925, and its lethal qualities, he states, have not diminished. In fact, I have been told of a thirty-year-old curare sample, kept in the laboratory of a medical university, which is still good, and with which premedics still curarize their annual frogs.

Lack of uniformity in the curare samples available to research had always proved a great obstacle in its clinical use, for many kinds of foreign matter are sometimes added to the alkaloid during its manufacture, for reasons both of carelessness and of superstition. Someday, I hoped as I talked and hunted with Aguinda and his people and sat with them before their night-fire, I would solve the curare problem.

But I still didn't know that curare was to become my major field of work. Nor did I know the way that was to come about, which was just as well.

Finally, as it must to all things, an end came to the encampment and hunting of the friendly Indians. One morning the hitherto busy *playa* was left suddenly forlorn, with several empty thatched huts and blackening embers of a dying fire. El Pastor and his gente were already swinging far down the orchid-lined trail, with the madly roaring, rock-torn Pastaza tumbling below them on one side and the green hills of the jungle rising beside them on the other.

Chapter Twelve

Chugo

There is a bit of sentimental Spanish verse, popular in Ecuador, which goes like this:

Corazón de mujer—
Que no sabe querer—
Que no sabe entregar
Todo el cuerpo y el ser
A la dicha de amar . . .
No se puede llamar
Corazón de mujer.

It means that the heart of a woman who doesn't know love and who doesn't know how to give herself entirely—her body and her soul—to love can't really be called heart-of-a-woman. It is very sentimental and very *apasionada*, as those things are in Spanish. It is the way I came to regard the Hacienda Rio Negro, the Pastaza valley and its ancient trail, the Indians, the peons, and the great soft-forested hills.

I felt sentimental not about what small part of me I might have had torn loose from everything else I was and had been before, but about what the place itself—the crashing river and the hills and the Indians—had given *me*. Unreasoningly

and eternally unchanged, they had given me a sort of happiness that is very nearly the sort some women sometimes can give a man. They were what the little verse means "heart-of-a-woman" should be. It was I who was changed, of course. If I had never come within a hemisphere of them, they would have been the same forever . . . soft-forested, warm with their rains, lush and alive for anyone. It just happened that I was there, and, then, felt that way.

If that part of it is difficult to understand, and it might well be, there were other reasons too. Reasons connected with my own work, the people who worked for me, my neighbors; even the passers-by. Sophisticatedly, or quaintly, or loyally, or even, with some of them, stupidly, they all added their contributions to the place and the life I had built there.

A famous New York stage designer, enthusiastic about the fine tropical woods, designed my living room for me; an Ecuadorian Cabinet member sent abroad for seeds for me; a peon brought me an orchid, new to me, to plant in my garden; jungle Indians brought me marmosets and kinkajous. Other people did other things for me.

Here is a series of letters which arrived at the ranch after I had been there a long time. The first one was occasioned by the travel-inspection trip of a representative—later to manage my New York ranch office—of the American Express Company. The last referred to an article written by a North American guest who had spent a while with me. They are all true copies, and were written by a Dominican friar in a near-by town. The only parts I have changed are the signatures:

Baños, 5 the November 1932

YOUNG LADYS ()

OF AMERICAN EXPRESS

I salut animosity to Yours, and invite to—Contemplate the Groups beauty of Baños, as a charmed Panorama: such as Inés Maria, Pastaza, Agoyan, Rio-Negro.

I invite to Wonder la Region Oriental Ecuadorian. Yes, Garden of Eden: such as Topo, Pastaza, Convent Dominican, his Orientalist Museum.

GO AWAY

Yours truly,

(Signed)

Dominican

Baños

Baños, 28 the December 1932

MY DEAR GENTLEMAN (DEL RIO-NEGRO)

I salute Yours and wish a very happy New Year. I am willing that the Landed property make happy.

I hope yours newspapers, review, magazine magnetizer. I give thanks.

Very truly yours,

(Signed)

Dominican

Baños, January 9, 1933

MR. GILL AND COMPANY

MAY DEAR FRIEND:

I am me felicitate for your appreciable litter; varely I know your kindness and courtesy.

I covet that—COMPANY have attraction by people of Baños. It follow, redound a issue for Company herself.

I remain, my friend,

Your very respectfully,

(Signed)

Dominican

Baños, 24th the January 1933

MR. GILL AND COMPANY

MY DEAR FRIEND:

My letter prove the affability for you. I think upon "Hacienda—Rio Negro" I see afar off it a Engine fruitfully.

In the past few days, marching several military men, for garrison in Orient.

It seems conflict between Colombia and Peru will result an progress generality in Chaos-Orient.

Yours very sincerely,
(Signed)
Dominican

Baños, 10 the February 1933

Hacienda "Rio-Negro"

MR. GILL Y CIA

MY OLD DEAR FRIEND,

I salute to You, and his life fully . . .

I wrote Ladys American, for I accept the cutting on her relations above "Rio-Negro, Baños, Mera, specially upon Jivaros.

I commend that Ladys Writer— on character, type, qualities from Jivaros.

I wishing your Rio-Negro as very fine garden, there are beautiful roses, pinks have a delicious odor.

Fare well. . . .

Your loving friend,
(Signed)
Dominican

So, these letters being typical of many things, it was only natural, inevitable, that I came to feel the way I did about my place and the region in which it was located. Even the queer characters who passed by on the Pastaza Trail, and

the weirder legends about them, were part of it all. I thought them over as I rode among the plantations or showed the peons how I thought a bridge should be built, laughed and shrugged over them alone in the bush, and at night told them, possibly too often, to my guests.

Almost everything, it seemed, had happened at some time or other along the trail and almost everyone—anyone with any sort of business, good or bad, in the jungle—had been along it. It was a sort of Rue de la Paix. If you stayed beside it long enough, and were patient enough, you could meet almost anyone. Even the animals which passed along



it were well known and famed in the region, more so than the ragged, shouting *arrieros* who drove them with long, hand-braided whips and cried greetings to all the world as they passed by.

The mule which passed into oblivion in the roaring Pastaza, five hundred feet below, with a Singer sewing machine on his back came to be far better known than the North American who had his reasons for living in the jungle and was taking in the machine to his Indian wife.

Then, too, there was the unfortunate animal we have always called the tiger-trap mule, using the Spanish word *tigre* for any one of the great cats of the American tropics. Until recently pumas and, more especially, jaguars were too numerous along the lower trail. Indeed, just as I was taking over the site of the Hacienda Rio Negro, one of the spotted cats did away with thirty-five head of cattle, between my ranch and the next one, before he was finally shot.

In any event, a certain jaguar had developed a deadly and insatiable appetite for muleflesh. Any mule would do. The beast finally got so bold that upon an annoying number of occasions he dragged down the last unguarded mule of a passing train of animals before the panic-stricken arrieros could drive him away. Finally a plan was evolved. A mule was carefully loaded with a goodly number of sticks of dynamite and a battery, all of which were connected on each side of the unfortunate animal with two metal plates, which, upon pressure, would come together and close the detonating circuit. The animal, freighted with its violent death, was turned loose upon the trail at such a point that it would have to cross the jaguar's territory in the course of its journey back to its home corral. It was followed at a distance of about two miles by several interested muleteers, while some of their friends stood guard at the other end of the passage to prevent anyone's entering that stretch, and

also to catch and render harmless the dynamite-laden mule if he came through without having met the jaguar.

It so happened that he met the jaguar, who apparently sprang upon him quite according to jaguar custom and the arrieros' well-laid plan. Having gone so far as actually to dispose of the great cat in so thoroughgoing and active a manner, it took the gentle and indolent people nearly a month to get around to filling in the huge crater left in the trail. Their descriptions of what they found of the mule and the jaguar—and also what they failed to find of them—were graphic and entertaining, and made up for what, after all, was only one extra muddy hole in the long trail.

Of the stories about the human beings who passed along the Pastaza Trail, some are apocryphal and some are true. Some of the men I knew and some I had only been told about.

One, whom I did not know, was a Spanish-American War veteran who, at the close of that war, left civilization for whatever reasons he might have had and finally wound up among the Jivaro head-hunters. After that, so the story goes, he wasn't seen again for considerably more than twenty years. His career among the Jivaros, however, must have been consistently successful. At any rate, he emerged one day from the bush and came directly to Quito, the capital. During the long jungle-bound years he had forgotten all but a few broken words of his English, and he knew no Spanish. But his Jivaro was excellent, and a Dominican missionary, who was in the city at the time, translated for him. He had been, he told the astonished Quiteños, a powerful and mighty curaca among "his people." As proof he produced several bulging, monkeyskin bags of gold, which weighed over fifty pounds and was worth in those days better than sixteen thousand dollars. The gold he was persuaded to

change into currency at one of the banks . . . but not until he had also been persuaded to put on a shirt and a pair of trousers. He had forgotten, he explained in the language of the head-hunters, that people wore clothes. The thought simply had not occurred to him for many years. He had also forgotten about chairs and for several days had great difficulty in sitting down without bumping his coccyx severely. His "sit-down" reflexes were conditioned to mats spread upon the ground, so that when he stood in front of a chair his knees spread sideways rather than forward. It was among the many things he found that he did not like in civilization before, taking his money with him (there was apparently nothing he wanted to buy with it), he suddenly and quickly disappeared again into the deep bush. It is a good story, although the people who tell it to you always admit they themselves did not actually know the man. But a friend of theirs . . .

Another, about whom I did know, was also a Spanish-American War veteran and had also lived for many, lost years among the Indians . . . though not, this time, among the Jivaros. His sister—we shall call her Isabel—harried and worn with long years of grade-school teaching, and with being the support of an indigent relative or two, had come all the way from the States to meet her brother and see what manner of man he was after these nearly thirty years.

John, the brother, had written her from time to time . . . letters a year or two or three years apart. She had written him more often, pleading with him to return home, to find a job and settle down among his kind. She had never, she said with the unkillable primness of the spinster in theory as well as fact, thought that the tropics and the Indians and such as that could be good for a man. Not for a man like John, whose feet had itched even when a boy, before he had left for Tampa and then for Cuba. She had read

a lot about the tropics. Don't think John's letters were all. There were books, she said, and motion pictures, and my friend who taught school in Puerto Rico for five years. But she . . .

And during all those years—the first short ones when he had been tramping from country to country down there and the later longer ones when he had been living among the Indians, trading a little, mainly shiftless, learning the deep jungle as few men know it, and finding what he wanted there—the United States had wanted to pay him the war pension it owed him. It wasn't until the money had accumulated for over twenty-five years that Isabel had finally been able to arrange—by whatever influence—to take his money to him in a government check for a good many thousand dollars. The check was made out in his name. The trip cost her most of her savings. Taking care of the relatives hadn't let her put too much by.

And so she sat in the little bamboo shack, which used to be the Grand Hotel Mera, a little before the letter-appointed time and waited for her brother to come out of the jungle. After three or four days he suddenly appeared at the start of the eastern trail, the one directly across from the Grand Hotel Mera, and strode across the small, deep-grassed plaza. He walked with an oddly flowing, uneven gait as if his feet were feeling for slippery roots in the open square.

All that day they sat and talked. Isabel did most of the talking, and the calm, leather-faced man watched her as she spoke. She was sallow and drawn, and her thin hands, used mostly to chalk and the complications of her drab, shielding clothes, fought nervously against the noontime *arenilla* flies.

It was difficult to talk with this elderly, monastic man who had come to her out of the jungles and from among the Indians. He wasn't as she had imagined her brother. He

wasn't what she felt her own flesh and blood would be like. Now, take your sister Carrie—she's been widowed and helpless these last nine, why, ten years—I've always said to her, afternoons when we'd sit and talk before supper . . .

Mainly the man watched her, and said little beyond Yes or No and . . . I remember. It wasn't easy, but she went on. She told him of his family first of all. Things like who had died and who hadn't, and who had got married and who hadn't . . . and why. After that she told him about the world he had not seen in nearly thirty years, ever since he stopped tramping around and went to live with the Indians. There were radios and airplanes (still fairly new, even to Isabel), automobiles, faster trains, faster ships. Everything was faster. As she sat, torn and worried, he saw and understood that what she really meant by faster was *better*.

And from the first moment she gave him his check until it was time for her to spread her borrowed cot and try to sleep in the little split-bamboo cubicle on the raised floor of the Grand Hotel Mera, she pleaded with him to return to the States with her. Even if he couldn't get a job, she reminded him, there was always the pension money.

At last he said he would. Then he walked away to wherever it was he slept. His uneven step wasn't as if he were feeling for roots, by then. It was the inelastic tread of an elderly, unsuccessful man.

In the morning Isabel was awakened by the sound of her three hired mules being got ready for her. She had hired one to ride herself, one to carry the borrowed folding cot and the other things she would need in Mera while waiting for John, and the other was for John himself, to ride out on with her.

The arriero, dirty and grinning and very polite, had already brought her a few hard rolls and some coffee with hot, skim-filled milk before she discovered the pension check

—endorsed to her—and her brother's note saying that he thought he had better return to the bush, and giving her his love and thanks. The note was written on a piece of yellow wrapping paper from the tiny store where they sold candles and salt and, twice a week, the hard rolls which the arriero had brought her for breakfast. John had written it in a long, narrow scrawl as if he had not written anything for many years and had tried hard for his schoolteacher sister.

Isabel didn't say much about it. Mainly, on the way outside, she complained about the arriero's sore-backed mules. Once she stopped, at a time when there was no need for resting, and looked for some minutes at the Falls of La Merced. That was before the automobile road came nearly that far.

And there were others:

There was a little man with eyeglasses, whom one day I met on a foot trail in the deep jungle. He was dressed in a black felt hat, a muddied blue serge suit, and wore a naval officer's cape lined with crimson. He had been walking about three weeks—he told me where he had come from—and carried in one hand a suitcase and under the other arm a German shepherd dog. He was carrying the dog because, as he showed me, the pads on the animal's paws had worn out, and he simply couldn't let it put its feet in the mud. After I had taken care of him for a while he told me about himself: how, after leaving the Intelligence Division of a certain navy in which he served during the Great War, he had gone into college teaching, and had become a full professor in his department. During that time he had also married and for a while, so I gathered, had been very happy, until one day he had discovered this thing and that thing about his wife and one or two of his academic colleagues.

At that, he had rather wanted to get away from things, so he suddenly resigned from his institution. He also wanted to see what there might be for him in the way of other kinds of romance. So, just before he left the States, he bought a large map of South America and, closing his eyes and trusting to his ill luck, put his finger down blindly upon it. The spot he happened to touch was far inside the Amazon country. But he had managed to get there. It wasn't just what he thought it would be, and now he was going some other place. He had touched the map again, although he didn't tell me where. I never saw him again and never heard of him.

And then there was the German who arrived at the ranch out of the darkness of the trail, one Christmas Eve after the gas lamps had been lit. He spoke good English and wore some sort of nondescript monk's robe with a cowl. His face was round and pleasant, and his head looked as if it might at some time have been tonsured. All he had with him was a small cloth packet and an old, mellow guitar. After dinner, and before he went to the room we had given him to sleep in, he told us that next day he was going on down to the end of the mule trail, to the little town of Mera, to visit a countryman of his . . . a German recluse who lived there, and whom I knew until one day he was murdered.

During the course of the short evening, after the ranch hands had had their Christmas celebration as always, I talked with our visitor about Goethe, and postwar German politics, and Kant's *Critique of Pure Reason*. After that he sang German Christmas carols for us, and accompanied himself on his ripe guitar. In the morning he had left before I was awake, and I never saw him again either. He did not even go to Mera, for I was there shortly afterward myself and inquired about him. I have often wondered what happened to him that early Christmas morning when he left my house.

Finally, one day, I suddenly realized that I had just spent a "hitch" of three straight, unbroken years in the tropics, and mostly in the jungle. Those last years had been spotted, when I was away from the ranch, with stretches of too much mud, too many hours of riding day in and day out, in the rain, wet through and, even along the equator, shivering with the cold . . . too many Indians and peons, and not enough subways and taxicabs and traffic lights. It was time—I talked it over with the Niña—to take a trip to the States, and to another climate. We agreed that the trip home was an excellent idea, but we knew that the climate part of it was only an excuse. We, and our guests and visitors, had always felt more stimulated by the lush vitality of the ever-growing jungle at high altitudes than by any northern spring or fall we had ever known.

So I arranged to leave the ranch and Ecuador for three, or even four, months. It was all more difficult than I had ever thought it could be, and there were a thousand details which hadn't occurred to me. It was the first time since the ranch had been built and started going as I had wanted it to go that I had been farther away from it than the city of Quito up in the mountains or the seaport of Guayaquil down on the coast. And even then I had been away for only a few days at a time, on ranch business: to see about new purchases, or to meet guests, or to make petitions for odd, gringolike things from the various heads of the government departments.

Now that I was actually leaving the country I was beset by all the usual worries. Would the peons look after the coffee nurseries and see that the cattle did not eat any castor beans while they were being led to the upper pastures? Would Salomón remember to clean the strainers in the pen-stock which supplied the running water, and would Manuel, the vaquero, remember to trim the hoofs of Chugo—my Andean pacer—and keep him shod? Would . . .

I said good-bye to those jungle Indians whom it was convenient to see at the time and probably drove the faithful mayordomo and the vaquero, and even the peons, into a state of wild and morbid despair. Day after day I gave them unending, minute instructions . . . and then repeated them all over and over. The men smiled and were very patient, and kept saying, "Yes, patrón, no, patrón," and "during your absence there will still be peace upon the land, patrón."

I had already arranged with the ranch's New York office—which I had not seen before, since it had been open a little less than two years—to send down a young North American couple who had had previous South American experience, to act as host and hostess during our absence, and to take care of the domestic end of things. They agreed to come down and stay four months, and were pleased with the idea. As it turned out, they stayed for nearly a year, and lost greatly by doing it. They were good sports.

While I wasn't giving instructions to the peons, and doing the other things I suddenly found absurdly necessary those last few days, I examined every yard of my hand-carved jungle barony with a rather saccharine sentiment. Like the little verse about "Corazón de mujer" or like a purple passage about the soil out of Knut Hamsun—if he has ever written a purple passage.

I rode Chugo up and down the trail, back and forth across the lower pastures and fields. I sat down in the vegetable gardens and felt proud of the things growing there and wandered around looking at the banana trees and the coffee and the long rows of castor-seed plants. I also looked at the cloud-veiled, greenly alive hills, which rolled away into the unknown distance behind my ranch, and felt that I should be glad to get back.

All the necessary arrangements had finally been made, and we were ready to leave within a few days.

One evening shortly before we did leave—just when it



was time to go into the house and see that the boys still remembered the trick of lighting the gas lamps, and then take a shower and dress for dinner—I was riding Chugo along the trail.

Chugo is an excellent horse. He is one of those cattle-trained Andean pacers (I had bought him on a ranch in the high sierra a few years before) who are equally sure-footed on a rocky mountain trail or in the deep mud of the jungle. He is a nondescript-looking sort of beast—what would be called in the States a strawberry roan. But he is a large animal, large enough to carry my two hundred pounds in rough country, and has an easy, rocking-chair gait which doesn't tire either of us.

The thing happened on a bend in the trail a couple of miles from the ranch house. I can always remember the particular bend, because there was a clump of several hundred deep-purple, vanilla-scented terrestrial orchids growing on

the bank just level with my head. The horse was pacing rapidly. He was in a hurry to get back. I was too and let him have his own gait.

Then, just at the bend something frightened him and he reared straight up. It might have been a large leaf which trembled on the trail in front of him—I could never break him of shying at leaves—or it might have been something else. I never did quite know. What did happen was that I went suddenly off his back, sideways over the saddle, and came down hard with both heels on a large flat rock.

I felt as if my backbone had been given a quick squeeze by a giant press, and for a few moments I felt shaken and dizzy and very sick. Chugo, the trail, and the purple orchids were dimmed by tiny points of light which danced among them. Then I shook my head, climbed up on the horse again, and went on to the house. By the time I got there I was quite all right, I thought.

That night the queer, not-very-painful feeling of a tight belt—which wasn’t there—around my diaphragm was something to which I paid little attention. It was only vaguely uncomfortable, and didn’t last long. This happened a few times at night, and I always forgot about it with the day.

A few days later, at a farewell dinner with the American minister at the legation in Quito, I first had difficulty in holding my fork. By the end of the meal I dropped a cup of coffee and fumbled awkwardly with my cigarette.

For the next three months in the States I wondered, but did nothing about it, when from time to time I stumbled over curbstones or noticed a slight tremor in my hand when I signed my name or started to bring a razor close to my face. Once in a while the belt-that-wasn’t-there showed up again, and I thought it odd that the place was really numb and tingling and without any real sensation.

Chapter Thirteen

New York Office

But during those next three months in New York there was not a great deal of time to pay too much attention to "not feeling quite right" on an if-and-when basis. There was a busy ranch office, which I had never seen and details of which I had to learn. Also, there were the subways and the taxicabs and the traffic lights . . . the things and the doings of my own tribe in my own land. I enjoyed them all, and did not miss the jungle greatly for a while.

Further, I had just had the usual routine physical examination which I always underwent on my return to the States. I always prided myself on the inevitable results, and on being nice and co-operative during the tedium of the sounding and the listening, the sampling and the needle-punching, and the fluoroscoping. This time the medico's announcement of the results was the same as the last time, and all the times before. Even the wording, from doctor to doctor, was always about the same: ". . . toughest nut I've

This chapter and the other parts relating to my illness are written as I felt and thought at the time. They are a purely subjective recording; for that reason possibly the Eminent Specialist and some others might not wholly agree with them. But I was only the patient—and, I have since suspected, not even the best of patients.

ever seen. Heart like a mogul engine, lungs sound as a church—sounder than lots of churches this day and age—and the rest of that extra-long carcass as good or better than I ever get in this office."

The toughest nut . . .

Probably I was. You can't drive six and a half feet of body through everything mine had been through and not have it come out tough . . . if it comes out at all. The usual surgical stitch marks, and a couple unusual ones: a bullet hole or two, and a few odd scars that looked as if they might have been caused by almost anything, and—as far as I cared to go in the matter—were. They only made it tougher. The medicos smiled and said so. Some fo'c'sles, jungles, and mountains had helped. Even, in ways, the college teaching I had done in earlier years.

After the examination, and after the flattering words of the medico, I was too tough and too busy to pay any attention to the occasional curbstone stumbling, or the swaying when I closed my eyes (they missed that in the examination) or leaned over the lavatory to wash my face, or the slight shaking of my right hand when I started a motion. Later I found that was called "tremor of intention" and getting rid of it was a fascinating game.

Anyway, there was the New York office which, I felt, existed also for young Cicigua and the Curaca Aguinda and for the polite, annoyed department heads in Guayaquil and Quito. It was new, and splendidly run by Violet Ohlsen, the "young ladys American Express" to whom the Dominican friar had written one of the letters. During the years which followed she was a loyal guardian of the Rio Negro interests, and later came to know a great deal about curare and the things we hoped curare would do. She had also come to feel about South America the only way you *can* feel when you really like it. There simply seems to be no other place.

So the office bought supplies, sent us many guests, told everyone who would listen about Ecuador, and was very proud when that republic's government dubbed it "El Ecuador en la Quinta Avenida," Ecuador on Fifth Avenue.

For three months the affairs of the ranch kept me just as busy in the States as they did on the Rio Negro itself. There were interviews and talks, the uncovering of new business, the establishment of research on some products of the ranch and the jungle, and above all, the assembling of the details for the large and about-to-be flourishing motion-picture expedition.

This expedition was going to make the first dramatic pictorial record of South American animals with one of the world's last important frontiers as its setting. It was to be a natural saga, a modern epic of the sub-Andes and the upper stretches of northwestern Amazon country; their animals were to be recorded pictorially, as the major fauna of Asia and Africa had already been. During the last two years, I had thought the thing over and over in the bush, patiently and in great detail. Then, in an anteroom in which everything excepting the grass-thick rugs was highly polished—the furniture and the ash trays and the receptionist—I waited impatiently for hours, along with other people who had written scripts and continuities, and didn't know a great deal about them, or who could croon, or who had short-dressed, spindleg-legged children who could tap dance. After several days the plump, expensive, powerful little man I came to see said hokay and we'll givya uh contwact and our side makes the cuttings and gawanteesya distwibution and dontfornothin let them jungle Injuns run away withya. I told him all right, and that I'd be sailing again the middle of September. Both of us believed it.

Then came the dizzying work of arranging the details of the trip, of thinking out—for months in advance—the entire

routine of jungle life for myself, for the porters and carriers, and for several amiable men who knew everything about cameras and nothing at all about the bush. It was the sort of thing where, if success or failure or life or death might depend on as simple a thing as an extra nail, that extra nail *must* be thought of and included among the few thousand items of equipment a year, possibly, before its need would arise . . . if it ever would.

All that was in the period of "things to end things," and that was the way we felt about this particular trip. The Great American Novel to end all Great American Novels, the skyscraper to end all skyscrapers, the Universal History (or Art or Music or Philosophy) Outline-all-in-one-huge-volume to end all Outlines . . . the field trip to end all field trips. It was large, well equipped, with quite attainable objectives, and functional in every way. It was humanitarian, of course, though quite apart from the drug research, and lucrative. It was the roseate essence of modern romance and adventure, everybody thought. And I was a brujo and the medicos had told me how tough I was . . .

Until shortly before sailing back to the jungle and León Aguinda's people—and finding out if the penstock strainers *had* been cleaned and Chugo's finely gaited hoofs *had* been kept shod . . .

Until one morning I woke up and my right side wasn't there. . . .

It did not exist. It had simply ceased to be. I know of no other way of saying it.

In New York, the physician who put me through the semi-acrobatics of my first neurological examination seemed puzzled. My symptoms, when correlated with his findings, failed to add up to a textbook case of anything either one of us had ever heard of. On the other hand, they might have been

the beginnings of almost anything. He was nonplused, and told me so. I have even forgotten his name, by now, for I saw him only the once, but I have always admired both his frankness and his expeditious manner of getting rid of me.

When he had finished everything, and frowned for a long time at the blankly normal laboratory reports, he said: "Nerves . . . and too much expedition . . . maybe. Anyway, there's only one thing to do. Go away until sailing time and take a rest. Try Maine. There's where your wife is, isn't it? That her home? Rest up, up there, a few days, and you'll be as right as rain . . . I think."

Nerves and too much expedition . . . for a jungle rat?

But I tried the rest idea in Maine, and suddenly knew what the words "blind, sick, animal fear" meant. I found out when I left the new office and stumbled through the unending sheen of the Grand Central Terminal and had a porter help me into the Pullman. The porter stood swaying easily to the motion of the train and was sympathetic in an unctuous way which made me sicker and more afraid. I felt I should like to see him boiled in oil.

That night, in a berth six inches shorter than I am, the belt-which-wasn't-there came back. It stayed for the next couple years.

In Maine, the Niña and I didn't talk much about the thing at first. We talked about the ranch: if la Encarnación had really washed all the curtains; if the tomatoes were still doing nicely in the warm vegetable garden by the river beach (it was fall in Maine and, I thought, cold); and if the desiccated spinach for the field trip would be full of sand again . . . and how sand got into desiccated spinach. We talked about old Captain Parker on the *Santa María*, and how the Grace Line should have called her the *Santa Mareada* instead; and the guinea pigs which kept us awake when we slept with the Indians on Macchu-Picchu; and the time, when I was an A.B. on the *Salvation Lass*, a Hog Is-

lander, and I helped paint out the "I" in her last name one night in Santa Fé, in the Argentine, and made the skipper very mad. And how that particular skipper was a great guy except that he read all the books of Harold Bell Wright—I hadn't read any of them, and if I had, back then, I never would have admitted it—and tried to make me talk about them to him because I had already had two years of college. But that was why I felt, then, I couldn't talk about Harold Bell Wright in the way the skipper wanted. He would talk to me—which he shouldn't have done—when I was at the wheel from four to six in the morning trying to keep the dim compass card steady, which was difficult because the ship was a Hog Islander. . . .

When we did talk about the way I felt, the first few days, we kidded about it and made wisecracks. The Niña said I was a hell of a brujo to let myself in for something like that. And I said, only *I* rather meant it, that I felt as if somebody might just turn a key in my wishbone and I'd be all right, and the tight-belt feeling would go. We tried making puns about wishbones and keys and belts . . . keys for *ceintures de chastité* . . . that sort of thing. The puns weren't very good. . . .

Four days later in that sparse, untropical little town, my left side went to wherever it was that the right side had gone . . . and stayed. Nobody seemed able to tell me where it went or, for quite a while, why. After that we didn't laugh so much about it. Not in the same way, at least. I wondered what would happen to the field trip and what I'd better do. The Niña sent some wires and letters to the office and to some other people, and said it seemed like a bad dream or something. It was, for her. Suddenly, and for a long time, I became as helpless as a baby. Only, I was much larger and heavier.

Then we went down to Washington, which was my home.

The train stayed for twenty minutes in the Pennsylvania Station, on the way through New York, where the new ranch office was and where the things for the field trip were waiting. I was in bed, in a drawing room, trying to swallow the food which had to be lifted to my mouth. Swallowing was difficult because the illness had already reached my throat, even before we got to New York.

Later, in Washington, after all the examinations and after all the trials and errors on every part of me: ". . . been over and over you with a fine-tooth comb. Finest men in the country . . . in any country. Everything on the laboratory side absolutely negative . . . gold colloidal suspension carried out to ten zeros . . . nothing any place . . . except a damned awkward set of symptoms for you and objective signs for us . . . everything else negative . . ."

Everything *was* negative . . . for me.

I felt as if I were just a head on a pillow. A bodyless, clear-thinking, terrorized head. As to the body part of me, I never quite knew where it was for months on end. There was practically no sensation except when the ants crawled up my arms and over my shoulders. They call that ant-crawling feeling formication, because of the irritating formic acid ants have in them. Certain Indians even extract the formic acid from the giant sauba ants and mix it into one kind of primitive curare. I lay very quiet and told the Niña about that kind of curare. The formication word, if we mispronounced it, gave us a new pun to use with the key and the belt idea. But after a day or two it got stale.

Because there was no sensation to speak of in my body, it might have been in the next room for all I really felt. Or standing straight up from my neck, or hanging straight down from my neck into a bottomless liquid-feeling space—until I looked down and saw it outlined under the sheet. I used to look often, at first.

And at night—I started off trying the nights without a light a few times—when I could no longer look down and see my body under the sheet I was really disembodied, a rolling head on a pillow. There was no trunk, no arms, no legs. The first few nights I tried to amuse myself guessing where my arms were—at my sides, or crossed, or . . . Then I let them keep a light burning for me. It was much better that way whenever I waked up.

Below the places on my upper arms past which the ants did not crawl until I felt better and they crawled farther, my hands and lower arms felt as if they had been plunged into warm, wet sand and held fast there. Part of the lack of sensation was a numb, sandy tingling. Even when I commenced to feel better and could move my hands (though the separate fingers went in all directions at once) they felt for a long time as if I were wearing heavy, awkwardly thick gloves. It was almost impossible to tell whether an object was hard or soft, square or round, smooth or rough. If I closed my eyes it was entirely impossible. And when I was able to put my feet on the floor, it was impossible to feel that for a long time.

I had not realized before (until it happened to me, and the Eminent Specialist helped explain it) how entirely dependent our fineness and accuracy of movement and co-ordination are upon the sense of touch. Our walking and movements in the dark, our most instinctive reachings-out or sittings-down or handgraspings at any time, are all but impossible if we can't feel the objects we are touching. Being able to see them, though, allows a reco-ordination of all movements on a purely visual basis. But it is a strange and new world of slow, thought-out motion which must be learned if for any reason a person has lost his tactful sense. Also, as soon as he realizes that all his bodily motions are

based solely on the ability to see he becomes horribly afraid of going blind. I was—all the time—until my sense of touch returned to me.

Then that afternoon—the same afternoon when I remembered the last time I had heard a toucan, and when I had seen the Charles Livingston Bull eagle on the magazine cover —when the Eminent Specialist had told me about not being able to do a great deal any more, and I kept watching his short black beard while he talked, he also told me that there was no sort of treatment or medicine to take. There was no infectious process going on—if the sickness *was* caused by sheer trauma, and he wasn't certain even then—so there wasn't anything to kill with medicine. (I wished there had been billions of microorganisms floating up and down in my spinal fluid and making love and then getting killed with whatever medicine they would give me to take.) It wasn't a textbook case of any kind. It wasn't altogether—he mentioned the name of something it wasn't quite—and it wasn't exactly—he told me something else it wasn't quite typical of.

He stopped for a minute while I kept on looking at the black goatee which moved up and down with his chin when he talked and pointed at me when he didn't. After he looked at me a moment, he told me again that there wasn't any special treatment. Just rest (I felt that I had been resting a long time already) and keep up the resistance (I knew what he meant—diet, vitamins, sunbaths—but it made me smile for other reasons) and get passive exercise, a good masseur ("... but remember you just can't have it *rubbed* away for you . . ."), and learn to walk and button buttons and feed myself all over again, like a baby. It was just up to me—and the Niña—to do it. There wasn't, he said, a great deal else to do. He said it all in a wise and clever way, as if he

told the same sort of thing to lots of others and as if it should have stimulated me greatly. It did. It irritated me like hell . . . and helped a lot.

It was after that that he told me about the curare, and I remembered the Indians and the jungle all over again, but in a different way. And what with the eagle and the curare business and the fact that there wasn't going to be any medicine which would make me walk and shoot a rifle accurately right away, I suddenly charted out my course. Before that it had been a pretty bad time. It was still bad, every once in a while. Worse than I had ever thought anything could be, bad enough to think of—but never try—all sorts of things.

But, even so, the very worst was over. I wanted to be a brujo again, and tough, tough as the medico had said I was four months ago. I wanted to sit beside a clan fire again with Curaca Aguinda. I wanted the white water and the black magic. Also, I wanted to ride Chugo down the Pastaza Trail again.

I did . . . but not for four years.

Chapter Fourteen

Interlude—Prelude

The next four years were passed—sometimes dully, just as often not—in Washington, Maine, and Florida. The locale varied with the seasons, and the dullness varied and kept lessening with the decrease of spasticity and the long gradual increasing of co-ordination and sensation.

At first the months were extremely dull. There was nothing to do—though, of course, that was more important than anything—except a certain kind of practicing. Just as one practices the piano, or golf, or flying, or ice skating in order to get himself from one level of near perfection of co-ordination to a higher level, so I started in with my entire body at a very low level and attempted to regain normal proficiency. I wanted to regain the better-than-normal nicety of trained movements which I thought I had always had. The sort of thing the medicos who did the routine examinations had told me about, the sort of thing that let me walk with ease and skill (even though not with grace) along a slippery and uneven trail, or let me throw a ball, or shoot a gun, or do my “hunt-and-peck” typing better than most people who did the same things in about the same way.

So the practice started in with moving first the ends of my fingers, and then the entire fingers, and feeling proud

when they would waggle in more or less the direction in which I willed them to waggle. It was also an event of incredible magnitude when I could close my eyes and be sure most of the time whether my big toe moved up or down, and whether, my eyes still closed, the Eminent Specialist touched me with something pointed or something dull. To feel the vibration of a tuning fork held against a knuckle was a warm feeling of winning something—like getting a check instead of a rejection slip or like having the weather good when you have been planning on its being good.

After a while, when I could run my hands over the spread with my eyes closed and tell whether it was plain or the tufted candlewick kind and when (with the doctor looking at me to see that I wasn't cheating) I could swing my arm around and touch my face, even if not precisely the tip of my nose, with my outstretched finger, it was time for a more complicated, more highly co-ordinated kind of practice. I had already reached one kind of level.

Then I started using each finger alternately against the thumb, transferring marbles from one cereal bowl to another. I would pick them up with my right hand from the full bowl and drop them carefully into the empty one. Then I would put them all back again into the first bowl with my left hand, and do it for hours. Or I would practice learning to tie simple, loose knots in pieces of heavy string (and get very annoyed when I remembered that I really knew most of the complicated, intricate seagoing knots and splicings and my fingers could tie only simple square knots); or button and unbutton buttons; or evolve a technique, by looking intently at what I was doing, of lifting my own food to my own mouth . . . and not missing my mouth very often.

Even the nights when they started teaching me to walk again—it wasn't that *I* had forgotten how; it was more that the floor wasn't there and my legs had forgotten that they

were part of me—were good for another kind of practice. Many times during many nights I would walk awkwardly and slowly—but walk—down a darkened hallway toward a dim red photographer's bulb which gave me something to keep my eyes on. Getting back again to the dark end of the hall wasn't so good. Usually the lights had to be turned on.

During those same months I tried to keep the rest of me—not the body part, the part which thought and remembered and balanced what, for example, the Jivaros had shown me against what León Aguinda's people had shown me and also what somebody had written about the things still other Indians had shown him—I tried to keep *that* part of me where it had always been, so that when the body end came back to where it used to be everything would be all right again and I could ride and guide a horse, and finish finding out about curare, and talk things over again with the ancient巫men who knew the ancient lore. So I arranged for special library privileges at certain places including the Library of Congress—which I am sure annoyed the librarians, for I knew how their clan feels about books sent out when they are not supposed to be sent out—and read and studied all that was possible about the findings and the ideas of other people in my field. Notes were made and destroyed and made all over again. Then they were filed and refiled, and when I got much better and very active, many of them were lost.

At the same time, because I was reading and studying so much of the other sort of thing, I caught up (the way you always think you will on shipboard but somehow never really do) on Charles Pettit and Thorne Smith and S. S. Van Dine and writers like that. And, between the two extremes, I found that it was as hard as ever to catch up on the solidly classical and the semiclassical pieces of literature. Also, I played at crossword puzzles, categories, acrostics, and be-

came quite expert at things like the game of making many words out of one word. I kept very busy indeed . . . nearly all the time.

The times I wasn't very busy indeed—and there were many times like that—were the hard times. I knew—and it was a comforting if not altogether accurate thought—that those who think they are going crazy are really the ones who never do. I knew that some of the other things I thought of, especially at night or when I was left alone for a while, were not the sort of things to think of. They were not the sort of thing that was sporting (I got very sick of thinking that word to myself for a while) or, to put it another way, even fair to the Niña or to the Eminent Specialist who was trying hard to make up for the fact that there weren't any germs making love and raising families in me to be killed grandly and sweepingly by powerful germ-killing medicines . . . or even to that part of me which was waiting for the body part to catch up.

So the times when I wasn't busy with those things *outside* of me I occupied with things inside of me . . . jungles, mountains, women, clan fires, classrooms, fo'c'sles. It was only when I was asleep and really dreaming that I thought of things as simple and as powerfully affecting to me as running, and walking rapidly, and trap shooting with a perfect score. But when I was asleep and dreaming, and there was nothing else in the world, those things were full of joy, because when I dreamed I was doing them well and with a liquid, flowing co-ordination I had never really possessed.

When I thought of the jungles, and the clan fires, and the rest of the things, I wanted greatly to be a part of them again. And I was filled with a consuming—and stimulating, as I now know—unreasoning, all-but-bitter envy of those who were among them and working with them. I read about, heard about, and was told about—and ached deeply about—

Dickey and Dyott or Liddle or Hanson or Erskine Loch. Erskine Loch was just at that time (he had called on me a little while before to ask me about routes and maps) working with one of my own Indians, a head porter called Severo Vargas, and was crossing the Pastaza and the Bobanaza valleys. He was going in dugouts down the Conambu and back again to Quito to have cocktails in the Metropolitano Bar, and swap yarns and worry about getting governmental permission for the things he wanted to do and the places he wanted to go.

He had told me about it, in the wary, short-worded, guarded way a man will talk when he is friendly and wants information from another man, but at the same time doesn't want to tell too much about his own plans. Then (he has written about it himself now in a book called *Fever, Famine, and Gold*) he was going up into the wind-tortured Llanganate Mountains in search of the Valverde treasure, in the sort of fog and perpetual cold which is part of places like that. I lay quiet, or practiced with the marbles, or made square knots in string, and thought of him—and the others—going down rivers or making maps, finding gold, leading their parties, and talking with the Indians. After I had thought about them for a while I went from a square knot to a reef knot, and it was harder for the Eminent Specialist to fool me with tuning forks and the other things he punched me with to see if I could tell whether they were sharp or dull.

I thought of all the amusing people I had known in the bush, and the stupid people, the good ones and those who were bad in more ways than they were good. They seemed to be more with me than the people I had known before that time or the people I had known other places. I did with them as one could with the women he has known, or with the pieces of writing he has done and likes, or with the

cities he has visited and stayed in for a while. I lined them up before my mind and saw them again—sometimes by themselves and sometimes many of them together—in the ways, and doing the things, that they had been when I knew them.

There was the fake White Russian prince who stayed with me on the ranch just before the real one visited me. He was good looking, well dressed and, after he had talked about himself to me, left me with an excellent idea. I had often wondered just what to do with a package of old medals and badges—G.A.R., committee ribbons, convention badges, commemorative medals—which had been included by mistake among some personal belongings which had come down to the ranch. They were bright, gaudy, and large. I had collected them when I was a child.

After the man who claimed to be a prince had told me all about himself and his family, I lined up the ranch peons every Sunday morning—as long as the medals lasted—and presented those two or three of them who had done the most work during the past week with a medal each. The presentation ceremony was formal and dignified and, after the first two or three Sundays, I got to be quite serious about it. The peons, of course, were proud of having one of the shiny bits of metal or pieces of lettered ribbon pinned onto their rags, and really worked quite hard with their machetes in order to earn one. Those who had received them (they had no idea, of course, what the lettering said) even used to wear them during their work when they were clearing land for me, or else cutting timber and opening trails in the land which hadn't been cleared yet. I suppose some of them still have them, and still wonder what they say: "American Dental Association Convention, 1912" or "48th Annual Encampment, G.A.R." or merely (gold block letters on a long pennon-shaped ribbon) "Chairman . . ." Chairman . . . !

And there were the amusing people, the good people, who

came there because they wanted to be there . . . not because they had to be there and not because they wanted the sort of thing from that place which is difficult enough and stupid enough to get from any place. They were the ones who didn't mind the sort of life which couldn't help but be the bush. They filled their notebooks, made their sketches or their collections, and seemed to drink in the vital lushness of the jungle hills during the day. At night they talked well—as you have to talk when there aren't many other things to do—or wrote up their notes, or made up tricky questions for the kind of "Ask Me Another" book they would have liked the real book to be.

But I remembered the other kind too. In ways they were easier to remember, because they made their own difficulties and their own dangers. Some of them were even entertaining to remember. All of them were easy, because the stupid things they did and the difficulties they created stood out from all the rest like a blotch of violent color in a Lucien Powell Chesapeake pastel or a folded dog-eared leaf in a clean book. Mainly they were men (possibly because there were always more men there than women), though I have never forgotten the woman who hardly ate or undressed because she was afraid of germs; or the well-known woman writer who got annoyed, and left before she should have, because our bananas grew upside down from the way she had seen them in grocery stores; or the other well-known woman writer who wanted mules and Indians, expensive equipment and costly jungle trips in return for writing an article about me which I didn't want to have written and—because I didn't do what she wanted—said and wrote hurtful things when she returned to her country; or the writer who, when she returned to the place from which she had come, wrote and did

the sort of things which made me and the government of Ecuador sorry she had been there.

The men who were stupid or ill-advised were always worse than the women, and more of a problem. They had larger and more detailed difficulties and also went farther inside, especially those who went on real field trips. And when you are quite a way inside, and far from hospitals and policemen, it is dangerous, to put it mildly, to insist on doing things which the Indians regard as wrong or to rebel too violently against the constituted authority of an expedition, or even against the hardships and the inevitable sense of profound solitude and aloneness. These last, by their sheer oppressive weight, cause some individuals, who in their own environment are intelligent and honest, to disintegrate fiber by fiber in their entire moral being. Sometimes it doesn't take long. I have seen it happen in a week-end trip . . . even in an hour or so in the woods.

When it takes a long time, a matter of weeks, it is complete, and the victim is desperate and frantic after the lack of anything remotely artificial and man-made has stripped him of his ego . . . as he has always been brought up by civilization to regard his ego. In his efforts to escape the wilderness or in his efforts to compensate too radically, among his companions, for his sudden lack of morale—or ego—he becomes the most senselessly dangerous person one can ever have to deal with in the bush.

Further, when the breakdown comes—and this is one aspect of the hinterland tropics in which the movies and the stories aren't too far off—he is afflicted by a sense of deep and cosmic injustice being done him. No one, from the scornful, wondering Indians to his white companions, is treating him fairly. Food is being hidden from him. He is being made to work overly hard, though by the time he reaches that not-pretty state he has usually stopped making any pretense of

working. His surroundings—they might be some of the loveliest natural scenery in the world—are suddenly hideous. So sickeningly hideous that he is unable to look at the forest without a feeling of nausea. And because all this makes him an unmanageable and dangerous individual—where there is no law to control his temporary wish for violent escape or violent compensatory action—you have an exceedingly difficult time with him until you can get rid of him. He is as well armed as you are and, what is worse, usually inexperienced with his shiny new guns. He is cunning through desperation, and is that most formidable of men . . . a coward (however temporarily) cornered and frantic.

And ever afterward, beginning with his first glimpse of tangible civilization no matter how squalid or how remote, he will compensate to himself in his thoughts and Tartarin-like beliefs, and to his friends in what he tells them, for the true horror of being once without an ego.

I am not exaggerating in this description of a type of aberration which most professional guides or explorers have seen. I have witnessed it several—too many—times. It is the chief reason why, as everyone knows who has read expeditionary accounts, the personnel of a field trip is the major problem. And there is no more pitiable thing than watching (you really rather share it with him since, in the bush, you live close to him) the breakdown of a complex, ultracivilized man who has been unable, for whatever cause, to adapt himself to the forces of open, uncompromising nature. It is less often the fault of the individual *per se* than it is the overpowering shock, without recourse to mechanical or artificial aids, arising from the too-sudden sloughing off of the inhibitions of civilization . . . and their equally sudden replacement by the just as stern and necessary inhibitions of the wilderness. I have always sympathized with them and been sorry for them. Theirs are deep and searing emotions.

Also, I have never wanted to see them again in the bush.

Inexplicably, I have seen old-timers—occasionally they were affected by members of their own party—go to pieces; and that has always seemed a great deal worse than the man who is spending his first nights in the jungle, and is fighting with a new side of himself about the wet, and the black vastness, and the soft, scurrying sounds near by. I have seen them steal food when for years they have known it to be nearly the worst of the jungle crimes; weighted down by that same odd sense of universal injustice, and temporarily beyond reason, they have sought escape in an almost cataleptic apathy and a real and very serious dread of the daily work; they have imagined themselves insane, sometimes in the first few weeks of a trip, because they were far from women . . . men who have known the hardship of the bush for twenty years and have always known—and used when necessary—the not-too-magic combination of a sufficient amount of beads and an Indian woman.

With the first-timers, who are more dramatic in their upsets, you at least understand how it can happen. Differences of background, education, even culture, do not seem to matter. Professional or lay, the metropolitan man has either a great and abiding love for the bush or he is torn to pieces by his dread and horror of it. Almost always he loves it. Those who don't are the exceptions . . . dangerous and ruthless in their desire to get out of it or harrowingly tearsodden in their pleadings to be taken out. I have seen men weep—who haven't wept since infancy; I have seen them stand up at a camp meal and scream that they were going crazy, that they couldn't stand another moment, that *now*, this minute, they had to get out.

Once, in his brief derangement, a man who had traveled widely and had been educated on both sides of the Atlantic, came to me crying and trembling. He said (this happened

on an easy trip in which he had made quite an investment for purposes of certain observations, not one of which he ever made after leaving civilization) that the Indians and the jungle and I were all plotting against him; that he was beaten, and couldn't fight us all; that he couldn't stand the noises and the mud and that he was afraid of never getting out again; that it wasn't the way he had read about its being. Then he held a large bandanna to his face and wept. I got him out, quickly. He was one of the several who have taught me whom to pick, and whom to reject, as personnel for the bush.

I thought it was odd—as I went from tying the reef knots and buttoning and unbuttoning really quite small buttons to learning to catch a tennis ball, tossed softly from a few feet away, in my sprawling fingers—that the memories of the people who had not been as they should have been in the jungle were so much more clearly defined than the memories of the people who were merely normal, or brave, or loyal.

It was easier to see them against the background of Rock Creek or Squa Pan Lake or Sarasota Bay, to visualize their faces and remember the way I felt about them, than any of the good ones . . . except the very amusing ones like the first Russian prince. It was easier to see the faces of the few employees who stole or caused trouble of one sort of other (both red men and white) than it was to make clear to myself—for that was the way I was thinking at that time—the faithful vaquero, or the librarian from Long Island who stayed with us a long time in order to help me correlate and start writing about some jungle material, or the Ecuadorian army captain who, as a civil authority before the establishment of the military outposts, lived alone in Mera and ruled many square miles of jungle with wisdom and knowledge. He was well liked by the Indians. He understood them as

few men do and lived out his years of jungle duty consumed and shaken by loneliness and by a longing for his family and his home in one of the high sierra cities. He visited me frequently and told me what he knew of the Indians, and their customs, and how he wanted to visit his family more often than every six months.

The last time he visited them he became ill with the rapid pneumonia of the high mountains, for he had become careless with his years in the warm jungle, and died in his home. It was better, said some of the Indians who liked him as well as I did, that he died beside his woman in the western mountains than in Mera or Puyo or Intillama. He was a good man, they said, and he was too alone in the jungle. . . .

But as I got stronger and more active—minor happenings were action for a while—I commenced to remember the good things and the loyal things more clearly, and the stupid, dangerous, unamusing things faded back to where I had been keeping them before I became ill. Also I suddenly realized why I had for a while remembered more of the bad things than the good things. . . .

About that time I could finally walk to a car and distinguish between the brake pedal and the floor boards without looking down. There was no longer any need for a cane (it was the tallest cane east of the Mississippi, they told me). I could walk quite a few blocks, and eat in restaurants with a more and more rapid sureness, and do the other things I had been wanting to do for a long time. But I never wanted to see a bowl of marbles again, or make a knot in a piece of string just to see if I could make a knot.

Typing was another part of ordinary living to be learned, and my second learning was no better than the first. It was still the two-finger-and-thumb kind when it should have been, with that opportunity, the touch system. I have always felt a little sorry about that.

But there was a great deal I wanted to use a typewriter for, and the way I typed did not seem so important. A certain amount of writing about the ranch, the Indians and their customs, and, of course, curare, came to be another part of living. Somehow when I again got deeply into the affairs of the jungle—even if only on paper—the research behind the bits of writing, and then the writing itself, seemed to compensate in small ways for the more tangible realities I had been missing badly. Later it came to be a definite point of departure, itself, for the field.

For a while I tried an effortless, electrically operated machine, until it seemed to run away from me and what I was thinking about. It took two and a half years, and several kinds of typewriters, before I could use my old, erratic portable again. When I finally could, I felt as if nothing had ever happened to me. By then, at least from a certain point of view, possibly nothing ever had.

After another year, because Helen Dean Fish and Helen Hoke, and Edward Weyer and MacKinlay Kantor (and the others who helped in all the ways they were able to help and, in their ways, made working again possible for me) liked the things I tried to write, and talked with me the way they should have talked with me at that time, I found out that I was ready—completely ready—to see what was left of the ranch, to send a runner out for young Cicigua or León Aguinda, or to ride Chugo along the trail and smell the faint vanilla smell of the purple terrestrial orchids.

Miss Fish and Miss Hoke, Dr. Weyer, and more recently William Sloane, are a group of editors to whom I am very grateful. All of them, in different ways, have been patient with me and have understood what I was trying to do about curare and the jungle and the Indians. They have under-

stood it and helped in ways which I more than faintly suspect were at least extraeditorial.

And MacKinlay Kantor, who in my opinion is a great writer because of the things he put into *Long Remember* and the way in which he wrote *Noise of Their Wings*, would step long-legged through the dry palmettos between his place and my place in Florida. Then we would talk about how blowguns and curare are made, and why wouldn't it be a good thing for me to use his lecture agent (which turned out to be a very good thing), and how to put profound things, emotional things or even abstruse technical things, into simple words, but words which carry their own depths of meaning and make that deep meaning clear to the reader.

It is the way in which a certain simple dress can make the meaning of a woman, and her body, clear to you as being what you feel you would like the meaning of that woman to be. But another dress, because it is worn another way and certain of its implied complications stand for other things, make the meaning of that woman confused so that you feel, for a while, the meaning of all women is confused with her and lost to you. Or, it is the same way in which you can get the meaning of a room and the people who live in it—or else mistake and lose its meaning—by the things in it and the arrangement and sequence of those things. It is the way MacKinlay Kantor writes and thinks. And even if he couldn't make me write that way too, the way he talked with me helped. He is another, I shall always think, to whom I owe a great deal.

But more than anything, because first the Eminent Specialist and then other people had told me about it and because I had done a great deal of research on that part of its problem which was my part, I wanted to do the kind of work with curare which I knew had to be done by somebody. I was—and am—especially interested, after everything that had

happened, in seeing whether the right kind of curare couldn't be found for all the people who were, and were going to be, helpless in the way you are helpless when one of the kinds of muscular spasticity hits you. It is one of the most terrible kinds of helplessness, and today there are more cases of spasticity than of infantile paralysis.

Then when I knew I was ready for the bush again, and knew it in all the different little ways that I had to come to know it, I met Sayre Merrill early in 1938. After we had talked about curare, and some of the other jungle drugs, he made possible the fairly large-scale expedition which was necessary to complete the pioneering work on them . . . as far as that sort of field work can ever be said to be completed. It was called the Gill-Merrill Ecuadorian Expedition, not because either of us thought that such a venture needed any name, but because of that quaint ritual of public identification which, it seems, is always demanded of an expedition.

I can't, of course, say here all the things I should like to be able to say about Sayre Merrill. He isn't the sort of man who would like to have too many things said about his generosity, his loyal thoughtfulness, or his willingness—even in these troubled times—to take a long, long chance so that others might be helped. I was sorry that he could not actually go on the trip himself, though his enthusiastic energy on this end of things, while I was in the bush, was boundless and all-important. And when the *Santa Barbara* brought us back after seven jungle months—and he waved and smiled and put his glasses on and took them off again while the ship was being tied up against the long rusty dock—I was very glad to see him.

Chapter Fifteen

Functional Exploring

This chapter—because it tells about that side of the field work which is not the riding along the orchid-lined trail or the spray-wet, nervous dash through a white-water rapids—you may find dry and serious. If you do, it is not long and your skipping it will not greatly affect the rest of the book for you. It is about the behind-the-scenes part of ferreting out the drugs: the whys and wherefores and the problems connected with them, and why we have become starchy and cliché and call that sort of field work “functional.”

When I was working out the details of this particular trip, after a few years of merely wanting to be able to work out its details, I realized that it might reasonably be called a sample of *functional* exploring, since it was to correlate and make practically useful both its own new findings and my previous findings.

Its purpose was not merely to make a certain single record, pictorial or otherwise, or to make a single collection of artifacts, trophies, specimens or what not, or merely to prospect. Its purpose was to solve a living problem in all its aspects: in this instance, ranging from the uncanny ability of the witch doctors and medicine men to extract certain drugs from the jungle to the equally uncanny ability of our mod-

ern laboratories to employ these primitive products in a refined form in our own civilization.

This is a problem which, even more than you might at first think, makes you run the gamut of all the aspects of so-called exploring in its modern sense:

You must have a prerequisite knowledge of the field, and at least an empirically-based idea of the definite objectives to be striven for and attained.

You must complete a descriptive survey of the primitive field from all angles: ethnographical, since you need to know all possible about the Indians who have evolved and used the drugs; ethnobotanical, since you must know the entire natural background of the drugs; and (since you are being functional, that is, practical) you must also investigate future transportational facilities for commercial quantities of the material you are at first bringing out only in sample form; the possible labor potential; and the possibilities of applying plantation-controlled methods to those of your findings which might later warrant large-scale production.

You must collect and preserve identifiable botanical specimens and also adequate samples of the prepared drugs made from authentic plant groups. To do this, you must somehow disintegrate from the actual procedure of primitive manufacture everything that is folklore, superstition, and wilderness ritual in order to evolve what might be regarded as a scientific production procedure.

And all that means, among other things, the establishment of a field laboratory, weeks of travel away from anything faintly resembling civilization, which must have enough equipment to be able to perform physiologic tests with the

collected material and evolve its own acceptable animal protocols. In fact, you have to consider and solve efficiently every imaginable problem connected with the wilderness aspects of science, food, primitive barter, personnel, health, relaxation, living quarters and defense . . . all directed toward the end of bringing back into civilization the field-substantiated samples for the cold searchlight investigation of laboratories which then endeavor—thousands of miles and thousands of years removed from the growing plants and the witch doctors, the white water, and the black magic—to apply these products of the jungle to our own complex needs in industry, medicine, agriculture, and even cosmetics.

But the success of running that same gamut of problems, that is, the success or failure of achieving expeditionary objectives when those objectives are located beyond all civilized facilities other than those which you yourself have brought into the field, depends first and foremost upon the adequacy of the tedious, headache preparation of the basic expeditionary supplies.

Let us assume that for certain reasons, good or bad, and starting from scratch, you wish to penetrate an area commonly regarded as one of the most difficult stretches of wilderness in the known world and to establish therein all the needs of a civilized routine of existence, so complete that you can sleep, eat, keep well, play, and go through all the other functions, and yet be able to carry on intensive research work. What would you go downtown and buy to take with you?

That problem—the problem of complete preparation—is, I believe, the most difficult one of all expeditionary work. You must be able to look ahead and imagine all that might happen months from now in a remote jungle and be prepared with sufficient material equipment for every possible contingency under the abnormal conditions of wilderness

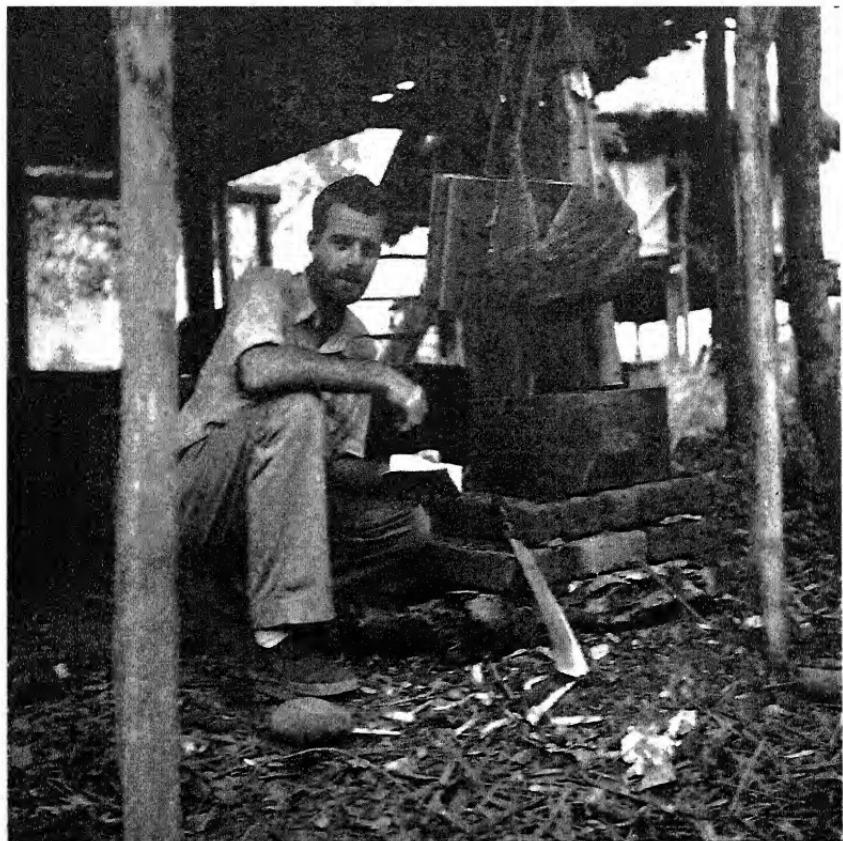
work. And yet you must avoid, if you can, the taking of a single pound of unnecessary weight.

It is at this point, when the details of preparation seem overwhelming, that you realize that six months from now a life might depend upon the presence or absence of so simple a thing as a piece of string. Then you commence to wonder . . .

So the beginnings of a major-scale expedition are weeks and months of planning, of the inclusion of certain items and, equally important, the exclusion of others, until you feel that you are finally equipped in every department: scientific, photographic, trade goods, food, cooking, drinking water safeguards, arms and ammunition, housing, sleeping, medical and field surgical, even games for recreation, desiccants, tools and other implements for the maintenance and repair of all classes of supplies . . . and the facilities for the packing and transporting of these items of equipment and their protection against heat, mud, rain, mold, and all the dangers of rough, primitive transportation by muleback, Indianback and dugout canoe.

Added to all of the above, by way of quite gratuitous problems, are the petty nightmares which occur along every step of the way: the securing of an adequate field personnel, white or otherwise; the shipping and the transshipping; the made-in-advance diplomatic arrangements which do not always pan out; the occasional bitter struggles with the local customs officers when you land with a huge and diversified mountain of baggage which, in their puzzled eyes, could start a store or a doctor's office or a hardware establishment . . . or even a first-class revolution.

And, when civilization is at last left behind, still other trials must be faced: the getting of horses and mules, of Indian porters, of dugout canoes, building permanent base camps, making new primitive contacts and re-establishing the



old . . . of weather, flooded rivers, delays owing to long and thoroughly drunken Indian ceremonies, petty treachery and intrigue. All this is overshadowed by the constant fear of any one of the thousand details going wrong which might reasonably cripple the whole undertaking: a lost canoe with its cargo; a single misstep in the muddy trail or on the slippery gunwale of a canoe; a second of carelessness with the fought-for collection; a little too much or not quite enough fuel on the day-and-night drying fire under the botanical presses. . . .

We had already accumulated, during the past eight years, a certain amount of knowledge and factual material concerning those drugs which I knew in advance were to be the most carefully investigated. Also, I had in mind the possibilities

of certain new drug combinations—new, that is, to the outside world—about whose existence and uses I knew, however vaguely, by legend, rumor, and, in some instances, by as yet uncompleted observations.

An example of the latter is a preparation which, some time ago, I arbitrarily named Avelina Blanca. I say arbitrarily, because any other name might have done as well, or even better. I couldn't think of anything, at the moment, with a more mellifluous sound which meant nothing, as far as I know, in any language . . . and which sounds utterly unlike any of the names its users employ with reference to it. It is the permanent and nontoxic depilatory used by certain Indians in slightly varying forms for the removal of axillary and pubic hair and, when they feel inclined and have the raw material to work on, the occasional sparse beard of the red man. That, seeming to be one of the dreams of the cosmetic world, was naturally a drug I wished to do further field work on, although it is one of the most closely guarded secrets of the jungle owing to the taboos regulating its use. As far as observations have been carried out, the stuff is quite harmless and incredibly effective.

The four preparations discussed here are examples of jungle drugs about which a certain amount of factual and practical knowledge had already been obtained and published. There is a large amount of reference material in several languages on curare and rotenone, though there is little on *leche de oje*, and only my own work on Avelina Rosada. The problems of the field investigation of these preparations are essentially the same (varying usually only in scope or inaccessibility of the material, or sheer tedium) as with any other jungle drug; their resolvings were, of course, the expedition's objectives:

1. *Leche de Oje*: This milky, latexlike sap drawn directly from the bark of certain trees is widely used among western

Amazon Indians as, depending upon the dosage, a laxative, antihelminthic, or assimilatory agent. The problem here was to find an adequate supply of the material and then, bringing back samples, obtain laboratory proof of its enzymic qualities and proteolytic (digestive) action.

2. *Avelina Rosada*: This substance—named by me with the same cheerful illogic followed in the christening of the depilatory—is derived by a simple process from a fibrous, pinkish root, and is used by the Indians with a fascinating degree of success, in the form of a shampoo or “treatment,” as a panacea for most of the ills which befall the scalp. Since the days of Tahuantinsuyu, it has served faithfully as a “dandrufficide,” a hair “restorer,” an agent to inhibit gray-



ness (though it is not a dye), and a sort of primitive cure-all for scalp infections. Among the particular Indians who use it, the lustrous tresses of the women, the unusual cleanliness and absence of dandruff in both sexes, and the universal lack of gray hair had always seemed to me to be excellent primitive evidence. I now wanted to bring it out into civilization and obtain laboratory proof of its qualities . . . make it, you see, "functional."

3. *Rotenone*: This is the generally accepted name of the main active principle of certain groups of tropical roots known regionally, in South America, by the following colloquial name variants: barbasco, timu, timbo urubu, and so on. Rotenone is increasingly used as an industrial, do-



mestic, and agricultural insecticide, and in the latter field has come to be of paramount importance since (as opposed to the usual poisonous chemical sprays and crop dusts) the substance as customarily employed is nontoxic in ordinary quantities to human beings. Most of the sprays and powders you use on your lawn and in your garden have a rotenone base; even the usual flea powders with which you both please and annoy your dog contain it. In fact, our own Department of Agriculture looks forward to that time, in the very near future, when the alarmingly high incidence of metallic poisoning (arsenic, copper) caused by eating sprayed fruit and vegetables which have not been properly washed will be a thing of the past owing to the universal use of rotenone. And Great Britain has recently made the use of rotenone legally compulsory as an ingredient in all cattle dips used in the British Isles.

The usual rotenone content of the average South American, and Asiatic, species of these roots runs from 1.5 per cent to a high of 7 per cent, with a total ether-extractives content of a 15 per cent top.

Another species of *Lonchocarpus* (the generic name for



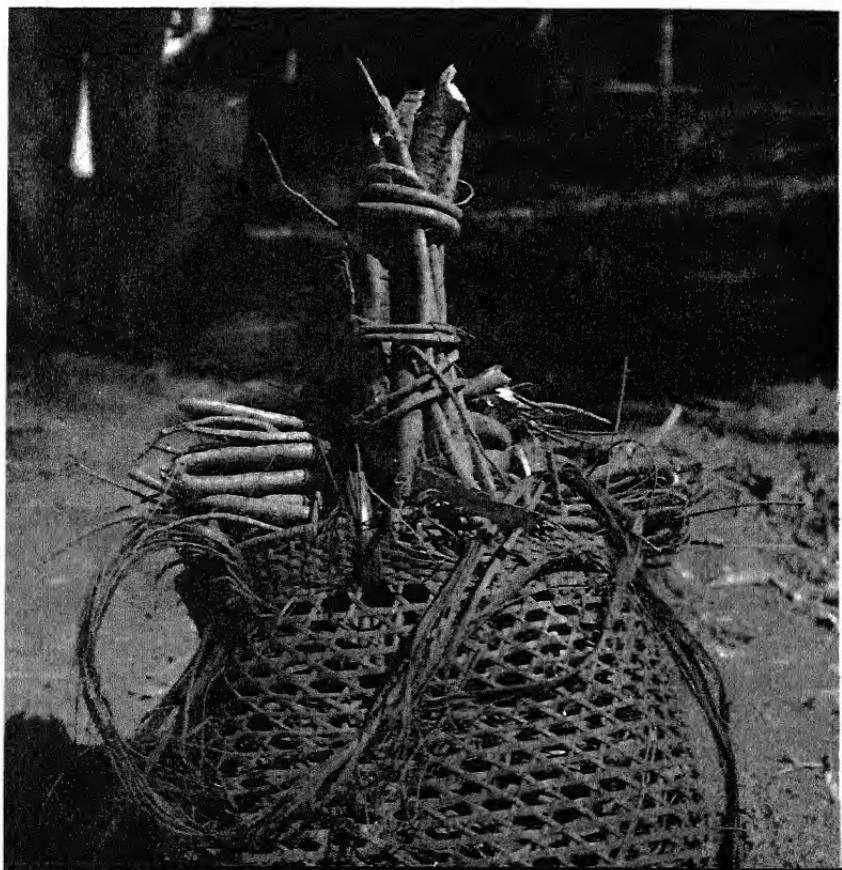


the rotenone-bearing roots) having a much higher rotenone and total ether-extractives content had recently been catalogued as occurring in another part of South America . . . though under climatic and agronomic conditions similar to those of the regions in which I had done my previous work. Further, my own Indians had always used barbasco, the kind depending upon the precise zone, as a means of catching fish in open streams . . . the original primitive use of the root and the fact which led some years ago to its first trials as an insecticide. This may not be the most sporting manner of fishing, but it is effective.

The fish are intoxicated rather than killed, float in a piscine daze on the surface of the barbasco-treated stream, and are easily speared or scooped up wholesale in baskets by the shouting Indians, who attend a barbasco fishing party with much the same vigor of spirit that is evidenced at a third-rate bargain counter. The edibility of the fish is not in the least affected by the drug.

Its use is, however, against the law in those parts of the hinterland where there is any law. Fish weighing up to twenty pounds are thoroughly stunned by the stuff and—this is why the law objects—all the small fry in even a stream of considerable size are killed for a distance of a couple of miles downcurrent from the site of the poisoning. That, of course, makes fishing difficult in that particular locality for the next season after a barbasco fishing party, and the resident non-Indian gentry object on the grounds of conservation and wasteful killing. *Their* more genteel method of filling the larder is a stick of dynamite! That, it seems, is perfectly legal in most places. Mere hooks of any kind are implements of the inefficient and the not-very-hungry.

The expedition's rotenone problem was the discovering of a high-content root in, so to speak, its own back yard and,



if it was found to exist, to make the necessary surveys for its adequate production in the future. This objective was based on previously correlated evidence, which ran all the way from bits of folklore and legend—the use of barbasco is an ancient practice, some authorities tracing it back to the Incas—to the actual participation in its primitive use and, as I was reminded, to generous partaking in the end results of that use . . . when properly dusted with meal and laid on a grate of green bamboo. Laboratory testing of the exact rotenone content, and the official identification of whatever species the expedition might be lucky enough to find, was to be done on the samples eventually to be brought back to the States.

4. *Curare*: This powerfully lethal drug, which nonetheless has had such profound humanitarian possibilities for such a long time, was the most important of the expedition's objectives.

And with almost every thought I had of curare I kept remembering the words of the Eminent Specialist, "If *only* we knew more about curare . . ." If only . . . ! Somehow as soon as Sayre Merrill had told me to go ahead and see if we couldn't find out more about the stuff I forgot all the other things the Eminent Specialist had told me about myself; it seemed worth while to remember only the need for curare and the thousands of sick people who had that need.

Nearly everybody to whom I talked—the doctors, the pharmacologists, all the rest of the specialists—said the same things that the Eminent Specialist had said. If only we knew more about it . . . and could get enough of it . . . and of the right kind! They sat at their desks, or leaned against gray, slate-topped laboratory benches, or—over the telephone—fondled the great idea with their words. Yes, the stuff has marvelous potentialities . . . could be a great thing . . . could really bring hope to thousands of poor devils—the kind

you don't see in the streets . . . kept in institutions or upstairs in a back bedroom . . . their families talking about them with their doctors in low, half-embarrassed voices . . . not ambulatory or even very pretty. . . . Yes, it would be a great thing . . .

But also from some of them . . .

No, it can't be done. Nobody has ever licked the field end of the stuff. Also, ever hear of Claude Bernard and Lapique or Jousset or even West or Burman . . . and what they've *tried* on the medical end? But then you're not a medico or a pharmacologist or a botanist or . . . No, our firm (or hospital or institution) realizes what it means to do research and to be a pioneer . . . but our appropriations (or our budget or our lack of time) . . . but . . . but . . .

But there were always a few who said that spastic paralysis might *not* be the stepchild of the profession . . . when we came to know more about curare. They even seemed to think there might be other equally large fields for the flying death. What if, they wondered, its effect could be taken advantage of in certain mental states? What if . . . ? Do you know what a field there'd be . . . ? How many cases . . . this country alone . . . ?

These few men made me forget about the people and the firms and the institutions who thought curare might be a great thing but didn't want to take the risk. They made me remember only that they *knew* it would be a good thing and that they were willing to help me with it in all the ways they could: research, clinical trials, the sort of thing that only *they* could do if I could bring the stuff to them.

By then I came to realize how really little had been found out about the arrow poison since it was first mentioned in English nearly four centuries ago and how even that knowledge had not as yet been woven entirely together.

Since the days of Claude Bernard, the famous French

physiologist, the medical world has endeavored to make use of curare's outstanding clinical manifestation: its powerful relaxing effect on the striated, or voluntary, muscles. This is caused by its highly selective action on the motor end plates which, speaking technically, constitutes either a complete or partial severance of the myoneural junctions (depending upon the size of dose injected), thus filtering out excessive and irregular motor impulses which descend from the higher nerve centers. It is not too unlike the "filter" on a radio set which eliminates the static. In other words, from the point of view of a patient suffering from one of the forms of spastic paralysis, it relieves muscle spasm and restores for a certain period normal muscle tonicity.

For many years, before the quite recently clinically proved value of curare in the field of the various spastic entities, the drug had been variously tried, but with mediocre success, in tetanus, in strychnine poisoning, and in several other maladies resulting in convulsive symptoms.

Previously, curare therapy had been sketchy, halting, and at times even dangerous. Medical researchers were unable to secure enough curare to achieve any sort of stable biologic standardization among various batches made with varying ingredients under the differing techniques of tribes widely scattered throughout the huge South American wilderness. Also—and even more embarrassing clinically—these various curares produced only for purposes of death by the witch doctors contained, aside from a large quantity of useless inerts, various highly toxic ingredients, such as snake venom and even formic acid reduced from an infusion made by boiling large quantities of the giant sauba ants.

Indeed, all along the line there had been a distinct lack of correlation of known curare facts, as well as an adherence to a number of misconceptions originally based on either faulty observation or fallacious conclusions.

An unfortunate curare fallacy—owing more to the dearth of material than to anything else—lay in the fact that much of the highly complicated and recently performed work in the fractional chemistry and physiologic reactions of the complex alkaloids contained in curare is based on the completely erroneous idea that all curare which shows up in civilization in one particular kind of primitive container (small bamboo tubes, gourds, clay pots) is precisely similar to any other kind of curare found in a similar container. Our expedition, in the course of extending the known range of certain curare plants some six hundred miles to the west of what had previously been thought to be their limits of growth, was to establish the fact that the type of container in which primitive curare occurs is employed either according to the whim of the individual manufacturer or according to whatever material is handy at the moment. Thus, it is as absurd to employ the usual terms “tube curare,” “pot curare,” or “gourd curare” as it would be to attempt to classify any drug according to the type of container in which it originally comes from the pharmacal manufacturer . . . “glass-vial quinine,” “pasteboard-box quinine,” or “little-jar-with-bakelite-top quinine.”

But the sketchy knowledge, the misconceptions, and the errors in observation were not the only obstacles in the way of helping the Eminent Specialist, and the others, eventually to say, “*Now that we do know about curare . . . and have enough of the right kind . . .*”

There were still the ritual-bound, die-hard scientificos who were content to let curare remain the mysterious flying death of the dark jungles. The field problem had been attacked before, but never solved. How can you . . . ? they asked.

Some of them—the ones who leaned against the slate-topped laboratory tables while they told me how good curare

might be—even said they were afraid to handle the stuff. Once refined and put into an ampul, it *might* be all right . . . but what would happen if, while we are working with it, we should get some in a cut finger or accidentally swallow a little? Even after I told them that it is, to all practical purposes, inert when swallowed—and that you couldn't get enough in a cut finger to damage you too seriously no matter what the detective fiction says—they still didn't like the idea.

And even worse was the fact that pioneering expeditions were costly and not at all, as they told me, a sure thing. I knew that. And South America is always sort of upset, they said further, and it is far away. I knew that also. And this thing of getting an arrow poison out of the jungles sounds weird to any practical person . . . had I thought of *that*? I hadn't. Instead, I had to think only of what had been said by the Eminent Specialist and the others who were willing to take a chance with their research and with the sick people. *They* were the ones it was necessary to believe . . . they and the results of the slow weaving together of the research evidence we already had. It was on that belief—and on the correlation of those early bits of evidence—that we finally based our curare objective.

All that is what I mean by functional exploring; and the various drugs—their problems and the hoped-for solving of those problems—were at once both the background and the objective of the expedition. And, having established the various objectives, I was ready for the nerve-racking delight of at last assembling the tangible details necessary for going safely and expeditiously into the bush again, and seeing how many of the drugs I could bring back to civilization.

But overshadowing everything else were the hopes that someday curare would help those many thousands of other people who—while I was going along the rivers in the hard-

wood dugouts or riding the rocking-chair gaited Chugo—would still be transferring marbles from one cereal bowl to another or practicing making simple knots in a piece of string and being exceedingly annoyed because they remembered the complicated ones. . . .

Chapter Sixteen

How to Trade Goods and Influence Indians

For two months after the visit with Sayre Merrill—when I had asked him if he really wanted to take the chance and go ahead with all this expeditionary business for curare and the other drugs . . . and he said yes, and hadn't I better be doing things toward getting ready—for two months after that I restudied the old maps, whose edges were frayed and punched with thumbtack holes, and tried to locate new and better maps . . . and found the world had not changed a great deal in the Oriente. There still weren't any newer or better maps of the region.

The old ones, which during the years I had filled with a nearly uninterpretable tracery of dotted lines, crosshatchings, X's, circles, and names of places that hardly were places, and certainly did not deserve to be on anyone's maps, were still good. I was rather glad—with my peculiar brand of sentiment—that as yet no one had made more complete maps of the places where I had been and now, after wanting to for a long time, was going again.

I also unearthed my own sketch maps which had been done at odd times, on the backs of packing cases or in night camps or under my extended poncho when it was raining. They were hastily penciled on whatever piece of paper was

at hand at the moment, and were not even elementarily cartographical.

To me, when things were getting under way again, they meant that this river flowed into that river at such and such a point and not at all at the place that the more formal, beautifully engraved maps showed. Or that the beach-where-the-Indian-lost-his-salt—an excellent place for a barter rendezvous if you sent a runner ahead and had the other Indians waiting for you—was just three days from the headwaters of canoe navigation going downstream or five and a half days going upstream . . . unless the stream was in flood, when it was only a day and a half down—if your bogas were skillful and you got there at all—but eight or nine days back up. They also indicated that this was where the helpful Indian, Antuco, and his family used to live and hire themselves out as carriers, and that Remo Caspi Urco (hill-where-lots-of-trees-used-for-canoe-paddles-grow) was a good place *not* to camp because Tayki, the Old One who lived there with his clan, had peculiar ideas about certain things and was difficult to handle after he had stolen something—which he invariably did. My haphazard sketches showed only that sort of thing and were Spartanly naked (and similarly unashamed) of contour markings, direction points, and distance scales. They were—for me—ideal and always helped me greatly. They also gave rise to a certain ribald amusement and a considerable number of pointed remarks on the part of almost anyone else who looked at them. Anyone, that is, who did not know the Oriente.

Along with looking through the maps I thumbed through mountains of colorful and brilliantly printed catalogues giving copious and, I suppose, commercially well-intended advice about the latest things in firearms, zippered boots, fabrics which apparently were proof against everything under the sun including the sun itself, tricky camp stoves which neces-

sitated the carrying along of a barrel of fuel and an extra case of spare parts in order to keep them burning with a hot blue flame and puzzle the gaping Indians.

In the end I did as I always do: I made out a highly departmentalized list of equipment, which took up yards and yards of yellow copy paper. Then I cut it in half. After that, with certain twinges and regrets, I cut the remaining half in half again . . . and got everything I needed from a mail-order house, a five-and-ten-cent store, a wholesale novelty store (for that part of the trade goods which I bought in this country) and, of course, from Anthony Fiala and Robert Abercrombie, who are better than any other people to talk to—and buy certain things from—whether you are going to the North Pole, the South Pole, the middle of Africa or Asia, or the Amazon country.

When I got that far along I was really out in the world again, handling and fondling the tangible things with which I would live for some months to come, and which would take me into the bush, keep me well, let me do my field work, and bring me out again. Starting off from scratch, I assembled a minimal and thoroughly efficient outfit for a modern tropical expedition. When it was ready to be loaded on the steamer, along with ourselves (the final trail packing was to be done in Ecuador), and when I had checked it and re-checked it for the last time, and when I had had the last bitterly friendly argument with Robert Abercrombie as to whether to include this thing or that thing or to leave it out (I holding onto my list and perspiring slightly, he pacing as only a short man can pace, among his exotic wares and calling me certain names which only he could call me), and when he had worked day and night, as he always does, to get everything ready in time—I was very proud and very tired, and slept steadily for the first three days at sea.

The assembling of the equipment for a fair-sized expedition, which intends to absent itself from the conveniences and facilities of civilization for some months, is a matter of difficult and overwhelming detail. Ninety per cent of the alleged dangers of the jungle, or of any wilderness country, can be done away with most successfully at the very start if you judiciously exercise the processes of both wise inclusion and wise elimination in arranging your equipment. The other ten per cent of the dangers do exist, I admit, but they are mainly there for the unwary or the unwise.

Outside of the departments necessary for the routine of sheer existence under jungle conditions (eating, sleeping, safeguarding drinking water, adequate shelter for yourself and your equipment), the most important department of all is the medical and surgical kit. Mine was based on a combination of previous experience and new and exceedingly helpful advice, not only from others with more recent experience, but from several public and private institutions which know more about tropical medicine and physical well-being than any others in the world. Add to that combination the stimulus of those vague and entirely normal fears for oneself and one's companions that beset anyone who knows he is going into a region weeks of difficult travel away from the nearest medical aid, and you have a fairly complete first-aid department. It will at least take care of your ordinary, everyday illnesses and will patch up the everyday minor wounds . . . and you do not want to think about the graver things that might happen. They rarely occur; if they should, they are simply part of what you are trying to do. I have always had good luck with my own field medicine and surgery and in the bush I have had to attempt certain things from time to time which I should blush at having to relate to an orthodox physician or to a dentist.

Another troublesome department is that covering those

items of equipment vaguely but always glowingly referred to on almost any expedition as "scientific instruments." A certain number of complicated and irritatingly delicate mechanical aids to observation, and field work in general, seem to be necessary, whether your purpose in the bush is to prospect, make a map, collect animal specimens . . . or get samples of jungle drugs. They are not difficult lists to write out, for, knowing your work, you usually have definite (sometimes too definite) ideas of what you will need to aid you in the field. The difficulties really start when you actually attempt to get hold of instruments of precision and delicacy which will nonetheless stand the rough treatment to which they are inevitably exposed in the field.

A pair of fine pharmacist's scales, with accessory weights, which is sturdy and compact but will, every time it is set up in the field, split a gram with undeviating accuracy into more fractions of a gram than you might ever think one would need, is a good example of an instrument that is difficult to track down. It and all the rest of the instruments present even greater difficulties when you attempt to arrange packing cases for them in such a way that the fragile parts will neither budge nor suffer damage even from the kick of a refractory animal . . . but yet may time and time again be removed quickly and easily from their cases for rapid use under any wilderness circumstances. And a still greater difficulty—since we seem to be dwelling on this sort of thing—is the evolving of a method of keeping both the scientific and the surgical instruments clean (and some of the latter sterile for emergency use) and yet continuously protected against rust.

Another example of typical equipment difficulty reared its nasty head in our photographic department. I was eager to bring back with me the film story of the search for curare. The idea of photographing the actual making of curare

seemed worth even the jungle obstacles of dampness and heat. When I returned to this country and saw the films for the first time I knew it had been a good idea.

Usually it is a difficult enough job to keep the cameras (motion-picture and Rolleiflexes), filters, accessory lenses, films, and all the rest of the amateur's pet doodads, dry and in decently workable condition. This time the deadly virus of colored motion pictures coursed through me, laid me low, and presented me with a tricky problem. I wanted to carry with me and then expose in the rain forest (one of the most humid areas in the world) several thousand feet of film coated with the delicate color emulsion. What was even worse, I should have to carry it with me into the damp jungle for a matter of several months after exposure, instead of being able to mail it immediately to the nearest factory branch for processing. Everyone—the factory experts, as well as those of my friends who had had much experience in successful tropical photography—told me it was an impossible idea, that after a short while the dampness would cause the emulsion to run off the film in large, dripping blobs, which would spell acute disappointment. Further, they added, it had never been done.

The final arranging of that particular equipment problem, sandwiched among the hundreds of others, took a considerable amount of time and energy. At last we evolved a desiccating agent which worked beautifully. Later in actual practice I found that a tube the size of your little finger, containing about ten grams of the substance, would keep a can containing approximately a cubic foot of exposed color film in perfect condition for months on end. As it turned out, I did not lose a single frame for reasons of humidity or any other climatic factor. Being a congenitally unhandy photographer, however, I lost many feet of film for more obvious reasons.

As in all forays into the wilderness—from the polar regions to the tropics—when several intelligent people of varying temperaments and varying neuroses are to live too closely together for what is usually far too long a period, a department of “relaxation” is an extremely good thing to include in your field equipment. Under certain conditions it will be just as important as your scientific instruments or any other of your carefully thought out and skillfully inventoried equipment departments. Dissension and ill will vanish, the next day’s work is easier, even the insects which buzz into the gas lamps and scatter their only partly incinerated remains over your food, do not seem so insupportable after a game of categories, or even dominoes.

I always endeavor to collect and take with me a certain number of games which are simple, require little paraphernalia, need just enough mental effort to be classed as “mental compensation,” and above all—no matter how competitive they may be—have nothing whatsoever to do with gambling in any form. This is based solely on the fact that a game in which even valueless matchsticks change hands as a result of competition between two jungle-bound persons is likely to grow suddenly, and quite inexplicably, into a source of serious rivalry.

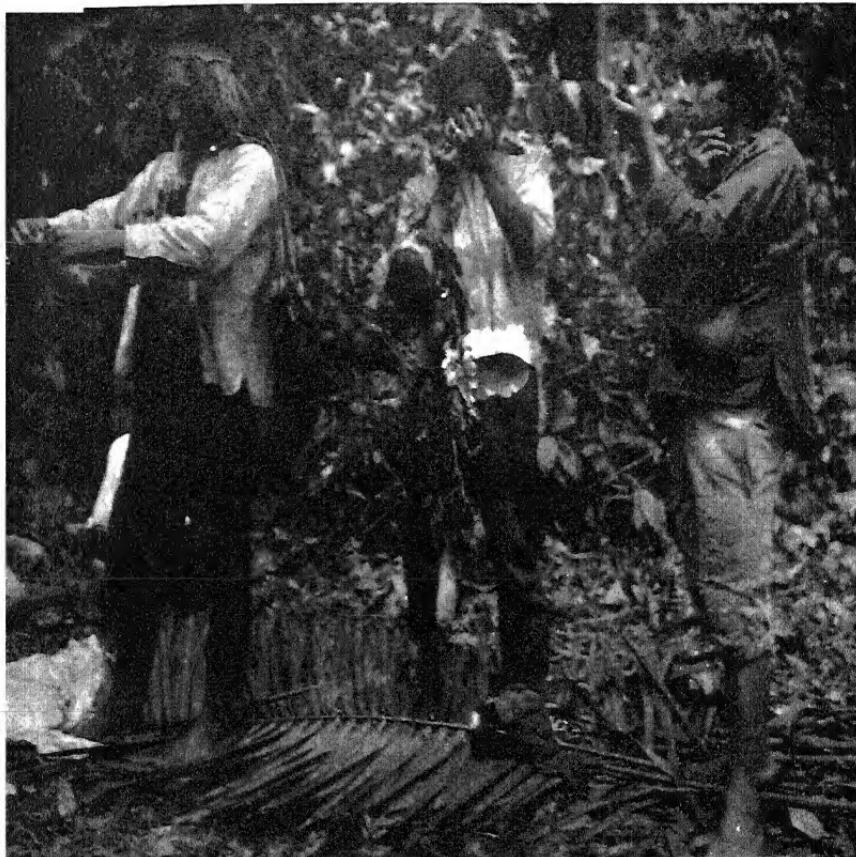
So we took along a number of simple games, with a reserve supply of paper and pencils especially for the word-game sort of thing, and quite a few pounds of one-volume books of the sort containing a complete text of the original work: dramatic works, anthologies, fiction, collected scientific references, and so on. Certain of the Everyman’s Library and of the later editions of the Modern Library “Giants” can afford that type of occasionally necessary intellectual haven which nothing but reading can possibly do when you have been long away from the world of books.

During an extended field trip one can develop a hungry

yearning for something to read, just as one can develop an overwhelming yearning for any of the other aspects of mechanized civilization, which at times seem intolerably far removed . . . hot showers, very civilized food, dress clothes, things like that. And when that hunger is upon you, nothing will satisfy it except the actual printed page. I have myself—and I have seen others—read over and over the torn page of a two-month-old newspaper. You can achieve a certain state of mental vacuity when even the ads at the back of an archaic pulp magazine seem a lordly mental exercise, when you can feel almost any printed word rush through you and refresh you as water might when you have been thirsty for a long time. And when the fragment of old newspaper and the torn pages of the moldy pulp magazine have been read and reread, even to a jungle limit, they can always be held upside down and the words puzzled out that way.

In all this listing of equipment, trade goods are especially important when you hope to achieve your objectives, in the main, through the establishment of contacts with primitive men and women . . . men and women who, because they *are* primitive, and accordingly ultraconventional, can become offended when offered trade goods which do not directly appeal to them. In fact, they can become dangerous if they once believe that certain trade goods items are “magic” of the wrong kind—their whole life routine being, as we have seen, a stream of purposive magic in which nothing happens by accident—in which the yucca crop fails, or the dugout upsets, or Aunt Tula is carried off by the neighboring Chumbelas, or Cousin Catafalco is ambushed, *not* for natural causes, but for reasons of jungle black magic.

Consequently, your trade goods are picked with extreme care. The needles, thread, slum jewelry, knives, cloth, mirrors, combs, fishhooks, machetes, simple tools, and all the rest of the rather garish miscellany must follow a set and definite



pattern. And only rarely can one change that pattern of primitive barter by the introduction of new and previously untried goods.

Despite my own years of primitive contacts and my regional reputation as a successful practitioner of *brujería* (both the white man's and the Indian's variety), I have been able to introduce new trade goods items memorably few times. I shall always remember the first occasion.

For countless generations the kindly savages who haunt the upper Amazon country east of my ranch have decorated their faces with an orange-red substance known as *achiote* . . . botanically related to our own paprika of commerce. With considerable persuasion I managed to get an old friend, a seamy-faced curaca, to try an indelible pencil for the same



purpose. After carefully crosshatching his face with that mysterious pattern of lines and figures which constitute the Indian's calling card (which if you know how to read it tells you what his region is, whether he is coming or going on a trip, what the prevailing climatic conditions are, and even his present emotional state—hate, grief, spirit of war), he examined his jungle-carved façade in a small hand mirror, and his leathery lips slowly creased into the semblance of a smile. He quite fell in love with the iridescent tracery on his *café-au-lait* face, and it wasn't long before indelible pencils from the Napo to the lower Pastaza were worth their weight and more in almost any jungle product.

Of course, the new face paint didn't stand up particularly well under a driving rain, but even white man's magic has its weak spots.



But generally one's trade goods must adhere to the usual pattern of savage likes and dislikes. The linsilla cloth, unbleached muslin, must be of a certain quality and color; the flowers and birds on the shoddy print goods must be tropical in nature; machetes must be of a certain heft; the *curi-muyu* (literally, "seeds-of-gold," as all trade-goods beads are called) must be only gold, white, blue, red, or green, since no respectable man or woman would be caught with a spear in his back wearing any other color.

Although Don Manuel has just sent me a sample of a new kind of trade-goods bead that is being rapidly adopted by both men and women of our region, I notice that the same conventional colors prevail. The beads are different in form only, being smaller and made of a translucent glass. The usual *curi-muyu* are simply opaque glassy blobs of color.

Even these new beads have been introduced to our Indians by still other Indians, as I happen to know. They have worked their way slowly and painfully by the long and adventurous route of primitive barter up from the Peruvian jungles, where I suppose some enterprising trader had a most difficult time introducing them to whatever Indians he first persuaded to part with their pelts or their flake gold.

The ready-made slum jewelry (as opposed to the neckbands, wristlets and pendants made by the Indians themselves from the beads) must also conform to a certain pattern of primitively conventional likes and dislikes. The earrings, for example, must be only the one-pendant variety; no self-respecting jungle matron would be seen with any other kind. The necklaces, not obtainable in this country, come from Europe already assembled for trading purposes. Twenty-four individual and unbelievably vivid strands come tied together at each end with cord. That particular style of assembly constitutes a portable jewel counter. You can hold the dazzlingly bright series of strands in one hand, gesticulate violently with the other as you haggle with the excited painted faces around you, and striking your bargain peel off one, or three, or any number of individual strands with one fell gesture (contorting your face at the same time into what you fondly hope is a complete register of despair at being robbed) . . . and quickly turn your attention to the next in line.

Generally, finger rings of any description are valueless, though I hope on my next trip to be able to introduce them. On previous occasions I have been able to evoke a gradually increasing interest in some gaudy examples of digital decoration. The last time I actually persuaded several obviously fascinated ladies to shove a whole series of rings over their brown, work-swollen knuckles. That is as far as I got. The rings were removed and returned to me with expressions

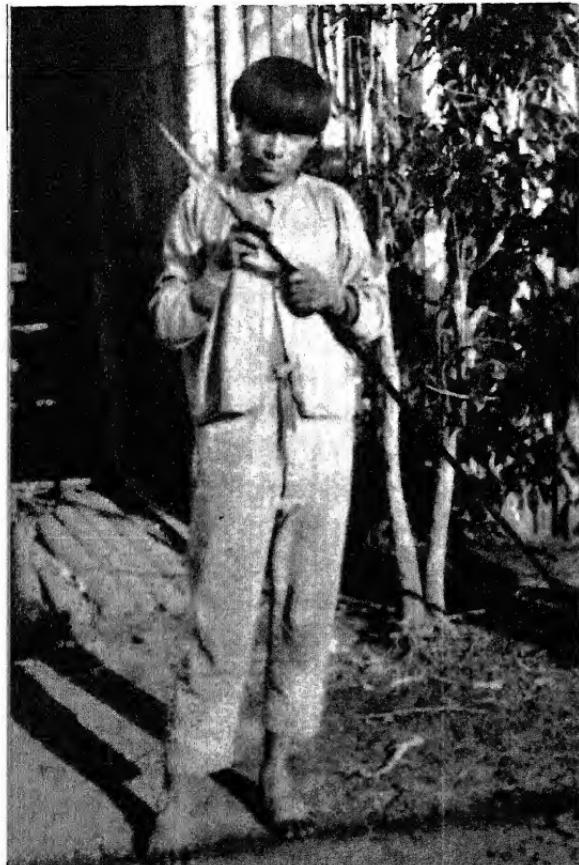
of profound regret. It was not, they told me, that I had come to them with presents which were not beautiful—trading is never called *trading*, it is always referred to with polite gestures as an exchange of presents, even though you may have argued bitterly for hours on end about a certain price—but that they had never seen any Indians, up and down the whole river, wearing decorations upon their fingers. Then they sighed deeply among themselves and looked again at the rings as women who have advanced beyond the stage of using paprika on their faces might look at a display in Tiffany's or Cartier's. The next time they will take the rings and give me what I want for them.

The black powder must be of a certain inferior quality, whose only virtue is the fact that the Indians have always used its like before; it must be proffered in a tin canister painted red. And woe betide the jungle traveler who fails to equip himself with percussion caps, vents, and wad reamers as spare parts for the more than dubious muzzle-loading shotguns (manufactured in Europe), the only firearms in which the jungle dwellers place complete faith. No matter if a modern express rifle could kill a jaguar a mile away, it makes only one small hole. And within the usual extremely short jungle ranges, an antiquated muzzle-loading shotgun, whose barrel is made of solder-dipped wire, will make a whole lot of small holes, and, if held near enough to the victim, a huge, gaping and thoroughly Indian wound. Its perforatory magic, the Indians think, must be the stronger.

These muzzle-loaders have an effective life of possibly a hundred shots as a maximum. After that the barrel unwinds itself and the thing commences to shoot around corners or, as often happens, explodes in the hands of its owner. But the end of it mechanical effectiveness does not at all mean to an Indian that its magic has been entirely exhausted. There still remains to him the undeniable prestige in tangible form of

being the owner of a white man's weapon. For months after it has fired its last shot—unless he has been able to trade for a new one—the proud owner will carry the rusted, warped, and useless remains of his gun with him upon every possible occasion as a sort of ceremonial symbol. At times he will even carry it slung over his shoulder when he goes hunting with his blowgun. As a consequence, the accessories and repair parts are extremely valuable. If you can by any chance repair an Indian's gun so that it will fire a few more dubious shots for him, he will gladly give you whatever you ask.

These same guns are frequently as dangerous for their possessors as they are useful, as either weapons or prestige builders. The simple child of nature who has never really mastered the rather complicated process of charging a muzzle-loader will, every once in a while, put on the percussion



cap and cock the cumbersome outside hammer before he bends over the gaping muzzle to ram home his load of powder and shot. Just frequently enough so that the resulting near-avulsion of the left shoulder joint is a common and recognizable wound in certain regions, the charge explodes while he is bending over the gun. The Indians are quite sporting about it; if they recover, they are as enthusiastic as ever about their deadly armament. It seems to make the magic of the gun all the stronger.

Even Indians who have never seen a white man, but are well aware of the white man's trade goods through the medium of barter with other Indians, always prefer machetes carrying a certain small, black and white label which says "Made in Hartford, Connecticut, U.S.A." Even the most isolated Yumbu somehow knows that the steel spearheads still made for the jungle trade in one part of Europe are better than those from other parts of Europe. . . .

I returned to Ecuador in May, 1938, and as soon as I had been put ashore in the port of Guayaquil, sprawled out in untidy welcome along the Guayas River, and had tasted the bitter-sweet of the first words of argument with the customs officials (who never give immediate credence to whatever diplomatic entry arrangements you may have made) I was suddenly a part of everything I had been and liked before; and the Eminent Specialist, the pieces of string, and the little rubber hammers were only something I had read about in something I should not have read, or something somebody had mentioned to me and I had not particularly liked. Just then the short time needed for packing, getting field help, and making the final arrangements before I should meet Chugo at the end of the motor road and ride him in to the ranch seemed a very long time.

As it turned out, about three weeks were necessary, with

the help of the expedition's personnel and the untiring energy of Don Manuel, who met me in the high sierra, to complete the final packing and arranging of the equipment.

In essence, everything has to be proof against the blows of primitive transportation, and made as watertight as possible . . . tight not only against the dampness of mud and the seepage of rain, but also against the possibility of any one or all of the cases and bags going overboard in some rapids, and lying in the bottom of a swift-watered chute until they can be fished out, if they ever can be. Also, all the packing has to be so arranged that a maximum of seventy pounds, no matter what the material, goes into each box or case or waterproof duffel bag. That is the maximum load for one Indian carrier, and two such loads (or more if you are not too greatly affected by the way the muleteers treat their animals) constitute a minimal muleload.

As the packing goes forward, a running inventory of every item, large and small, which enters into every load (and its precise place in that load) must be made out and forever after guarded above all else that you carry. There is no other method of knowing precisely at what place in which load a certain kind of ammunition is, or the spare jets for the acetylene hand lamps, or any other of the hundreds of items left after you have pared your original list down to what seems a woebegone and pitiable minimum. I always carry my field inventory in a waterproof tobacco pouch in a handy and well-buttoned pocket, and see that every member of the personnel has a similar copy similarly protected.

One of the best ways of doing the final trail packing of a moderately large expedition's goods and chattels is to take your time before entering the bush and set up a complete carpenter and tinsmith shop in the basement of your hotel. This naturally annoys the volatile management exceedingly and gives him or them a large amount of interesting and

timely material for future conversation about the crazy *Yanquis*.

As a matter of economy and convenience, I can heartily recommend the usual export case-oil boxes. These, once you have established your workshop and calmed down the protests of the hotel proprietor, are reinforced with iron "strapping" and can be adequately hinged and locked. Case-oil boxes are originally made to take two square tin cans, holding five gallons each; these cans, in turn, can be filled with various staples, and are effective against total immersion when they are properly soldered. If you prefer, the boxes can also be partitioned and subdivided (if you have the mental stamina to explain your desires to your native carpenters) in all possible manners, forming permanent cupboards, field desks, instrument cases, and whatever other device appeals to you at the moment as being the height of luxury and convenience to take with you into the field.

Also, the boxes will take four square friction-top tin cans, holding just under a cubic foot each, which are by all odds the most handy waterproof container ever dreamed of for general packing. They will hold an amazing amount of food, ammunition, film, or anything else less than twelve inches in its greatest dimension. They are imported into South America from Scandinavia, as the original bulk container for dried salt codfish. I have used them many times and have always felt that they deserve special mention, not only for their extreme usefulness but—when you have finally succeeded in rounding up from all the local grocery stores the thirty or forty or fifty you may need—for their incredible and long-lotrering fishy smell. Were you to pack them without cleaning and take them into the field with you, their sweetness would not—like the rose—waste itself on the jungle air, but would leap at you as only the effluvium of codfish can, from everything that had been packed in them.

We found that the only method of cleaning the cans was, first of all, to annex a goodly portion of the hotel's kitchen range, calm down the chef who beat violently on his greasy breast, and boil lye water in them. After that they were rinsed out with gasoline, then boiled with more lye water, rinsed again, and left to dry in the brilliant sunshine . . . in the hope that the great Inti would also help. While this arduous method was in the main successful, it left a few of the cans—some of those we used for food, of course—still more than faintly redolent of not one, but two, smells, as we noticed weeks later when some of them were opened for the first time. There was not only the aroma of the original codfish, but also, faintly and ruggedly combined with it, the smell of raw tin and lye water. Inti, we felt, had not done his best with these particular cans, and, as we grew familiar with them, we named these two smells Tom and Jerry . . . having in mind a certain beverage impossible to obtain in the jungle. We often wondered, when Tom and Jerry invisibly but effectively graced our meals, which was the stronger. I usually argued in favor of Tom, but occasionally sheer olfactory logic dizzied me and swayed me in favor of Jerry. It was a point we never really decided. As I remember it now, it must have been a tie.

Eventually everything was ready and, first by truck and then by pack train, we set off for the ranch, where I wanted to spend a few days before going on into the bush. I had not seen it for several years and was impatient to get there.

At the end of the motor road—now much nearer the ranch than it had been before—it became necessary to transfer the equipment from truck to muleback. When I got out of my car, I found Chugo, saddled with my old stock saddle, waiting for me and, as he always did at the sight of a car, pulling violently back from the peon who held his reins.

I believe that those mechanistically inclined zoologists who claim that animals cannot possibly remember their former human associates after a prolonged lapse of time are mistaken. Chugo, now nineteen years old and a bit wind-broken, remembered me. I would swear to that.

He rolled his faintly-yellowed eyes in memory, I am sure, of many bitter struggles along the trail, concerning which swaying bridges were safe to ride over and which were not, what to do and what not to do at the unpleasant and startling sight—to Chugo—of a large banana leaf in the mud. Then with a subtle air of great casualness, he nearly dislocated his rusty brown neck in an effort to bite me when I passed my hand under his belly to inspect the cinch. That was when I really knew he remembered me . . . and how he felt. I felt the same way.

Chapter Seventeen

The Ranch and the Trail

Once more it was the ranch, the jungle, the soft rain . . . and the horse Chugo. I rode him in from the end of the automobile road, and very suddenly I was at ease with the world again. It was my first time on a horse since Chugo had slipped with me some years ago—or possibly only some minutes ago—and I found that I had to adjust myself all over again to the feeling of sitting in a deep stock saddle and riding along a trail. Whenever we came to an upgrade Chugo would breathe with a peculiar rasping sigh which means age and being wind-broken in any horse. For a while I was more sorry about the animal than I really should have been, and I felt that I should get off and lead him up the little rocky rises which occurred so frequently along the trail. But that was only for a little while. After the first couple miles, when he had become used to me all over again, and I to him, we had an argument about whether or not to step over a brilliant banana leaf, which lay in a broad expanse of startling greenness on top of the shallow gray mud. After the argument was over and after Chugo, dancing sideways, had carried me across the banana leaf, it was the same between us as it had always been. I didn't worry any more about leading him up the rises.

As I approached the hacienda from the trail, the place seemed to look much the same as ever. There were, of course, certain subtle differences which could be sensed even at a distance. The fringe of trees along the trail seemed to grow more thickly than I had remembered them growing; and it was harder to look cleanly across the lower pastures and fields to the foot of the hills where, I remembered, our old machete-carved trails ran up to the upper clearings and pastures through land too steep for general cultivation. We used the steep hills between the lower intervalle land and the upper tableland only for coffee nurseries, and for experimental planting in small patches.

(It wasn't until I made a tour of inspection the next afternoon that I found out the last series of coffee nurseries which I had set out just before leaving for the States had never been transplanted. They were entirely overgrown, and new large lianas hung down from the trees I had left for shade. Where they touched the floor of the jungle they lay in rotting coils. I knew it had been a long time since anyone had worked in the nurseries, because bits of decaying starch-nut shell were scattered on the ground where the red spider monkeys had been eating.)

But only when I rode under the old canelo-wood gateway (moss was growing on the place where somebody had torn down the brightly painted tin sign which had said "The entrance prohibits itself") and rode the last couple of hundred yards past the remains of the corral to the house itself, did I commence to realize what the change was which I had sensed from the main trail. I could not get a clean sweep of view across the lower pastures because they were overgrown with small trees and lush bushes and appeared not to have been cleaned out in at least two years. A few head of cattle and two ancient tired-looking mules wandered forlornly

some distance away from me. They made me wonder greatly what the house and the rest of the place would be like.

When we swung into the side patio, a few of the old peons came to greet us. Two came from the shadow of the main house, where they had been lounging, and four or five more from the peon quarters. That part of it was much the same as ever, and I felt better about the overgrown pastures and a little less hesitant about going into the house.

There were the same upraised hands—only fewer of them—to help us down from our horses; the same little round hats were lifted violently up and down in organ-grinder-monkey style; and the same mellow babble of voices wrapped us around with a warmth of affectionate humble greeting.

"The patrón has returned . . . and the Niñita also. The patrón is still two meters tall, and we had hoped the Niñita would have gained an arroba of weight. Your land is yours . . . there is peace upon it, and we have waited many years to be glad to see you again."

There were, as I said, only a few of the old hands left. The mayordomo had been replaced by a new man, after a great deal of lengthy correspondence with my attorney in Ecuador. The vaquero and his wife, La Encarnación, had been working these past few years on another ranch up in the mountains, near the town where they had been born. But there was still old Papacito, gnarled and twisted from seventy-five years of the machete and the sort of work which peons do in the bush. I had known him for many years, and had always liked him. He was still as active as a boy, and could run all the way in to Baños as fast as I could travel on a horse.

He had stood to one side while the other peons were shouting their greetings, and while the new mayordomo was explaining, without taking breath, why things were as they



were. It wasn't until the peons had carried my saddlebags into the house and taken off my spurs, and wiped the mud from my boots with pieces of folded sugar-cane leaf, that the old man came up to me.

As he had always done, he stood before me a moment without saying anything. That was custom. I had to say something first. I said I was glad to see him and asked him how the place on his head was which had been struck by a falling timber six years ago and which had been very difficult to sew up.

He still didn't say anything. That *wasn't* custom, but I saw how he was feeling, and went on talking myself while he wrapped his grimy twisted hand in his poncho and then took both of mine in it. After that, I patted him on the shoulder, and he rubbed his poncho across his eyes and asked me if I had noticed where he had stitched the bucking roll in my saddle. I said yes I had noticed, and hadn't he better help unload the mules, which had started to arrive by then. He went over and fumbled with the first pack ropes he saw. I watched him for a minute, and then went on into the house.



After three days of hard work the house and the hibiscus shadowed areas under and near the house looked less like a strange dusty place which we had never seen before. We set to work with the few old hands who were already there, and the new group I had hired in Baños on the way through, and soon made the house, the garden around it, and the peon barracks take on almost the old meaning for us. There was nothing immediate to do about the stock and the overgrown pastures and the jungle-lost plantations. For that part of it, I mapped out with the new mayordomo what work was to be done during the months I should be in the bush. Then I promised to remove his hide inch by inch with a dull machete if everything had not been done when I came through again on my way out.

In the house the kitchen apparatus still worked, and within a day or so the water supply was the way it had always been. The peons who listened to the things I said while I struggled to get the green-tiled shower system in working order were as puzzled as they had always been about the complications necessary for such a simple and infrequent thing as taking a bath.

But it wasn't until I had rearranged the weird, disordered

shambles of my study and had seen its freshly cleaned cinnamon-wood walls shine like spun taffy in the lamplight at night that I got over feeling happy and sorry, both at the same time, about seeing the ranch again. Then I called Manuel and the new head arriero into the study, and we planned out the last-minute details of the expedition and the carrying of the equipment into the jungle.

While it is all fascinating work, and many things about it are even fun of a sort, no part of a major-scale expedition is particularly easy. Not, at least, if you want to come out of the bush again with anything more than a harrowing-looking beard and a handful of damp-struck photographs and grief-struck anecdotes. One of the least easy parts is the arranging of adequate primitive transportation to get you and your people and your ponderous-seeming equipment cases over the trails and up and down the rivers.

Julio, the arriero, and Manuel reweighed the rows of iron-strapped boxes and the long brown duffel bags which looked like bulging sausages. I sat on the porch rail—after I had poked it to see that it wasn't one of the places where the termites had been while I was away—and wrote down the final weight of each load in the running inventory as the two men called it out to me. When they had finished, Manuel said, "Así es la cosa, señor . . . That's the way it is," and Julio, taking off his straw sandals because he was about to go out of the house, looked at the boxes and called them what he calls his mules at times. The word, useful and obscene in Spanish, in English means nothing you might ever dream of associating with a mule. Julio, being a new man, had never seen so many loads at one time. Also, after I had talked to him, he was worried about the fragility of their contents.

" . . . and they are all very delicada, patrón?"

"... extremely delicada . . . and very *costoso*," I told him.

He stopped scratching his sandfly-pocked feet and scratched his head instead. "And they contain *maquinaria*" (almost everything is a "machine" to the peons) "from your country where they make so much *maquinaria* delicada, like the *cines*-which-talk-in-Riobamba and the rr-radio. *Carai!* It will be necessary mules of strength and tameness . . . so, who knows?"

I counted muleloads on my fingers for him, with appropriate violence, and remembered the thousands of loads which had been packed in the outer patio on my own mules before I had been away from the ranch so long that my own mules were gone. "There will be necessary thirty mules of a strength and tameness and six animals-to-mount, also of a strength and an excellent pace, from here until the trail finishes itself. Hire them from your friends, and that they sleep in my pastures the night before we leave." I counted thirty mules and six riding animals all over again for him.

After a moment he smiled and said that *he*, Julio Escobar, was an arriero-with-reputation, that he would like—now that I was on my land again—to be my arriero for an eternity, that he would present me with an *inundación* of animals both coming and going . . . and that I pass a good day . . . and would the patrón, being pleased with his work, some-day take his picture and that of his wife and of his children?

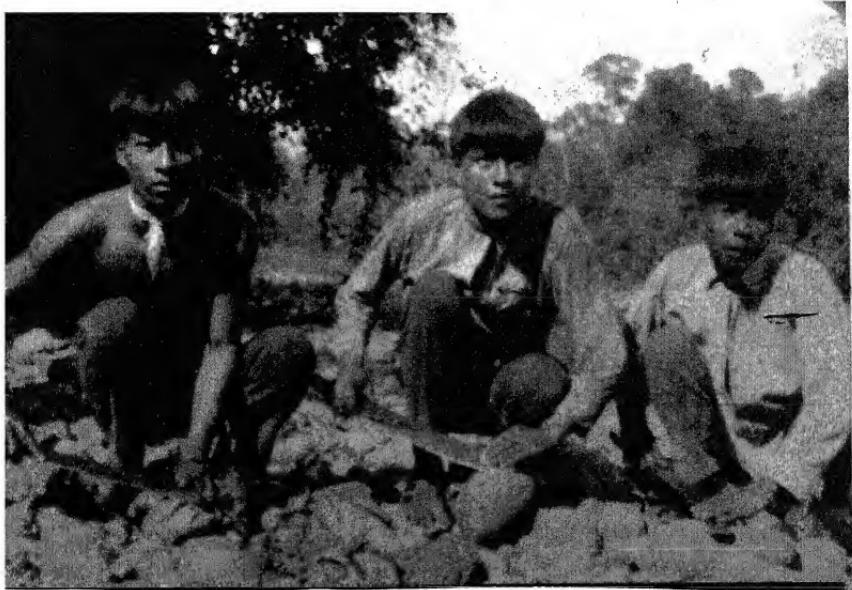
When he walked away, I could hear him counting loads and mules, ". . . seven from Ángel Cisneros who owes me for machica . . . four from César Guevara . . . and from Rubelio Paredes . . ."

I knew it was all right then about the mules and about Julio. Now there remained the question of the long stretch from the end of the animal trail through the last of the sub-Andean foothills to a point where we could use canoes on the



river down which we wanted to descend to the curare country. I talked it over with Manuel.

We should need seventy-five porters for the actual carrying, a few extra Indians as replacements and as machetemen, and several (we used the services of four, as it turned out)





subcuracas to look after the men we should contract from them. They were to see that the porters didn't suddenly dump their loads in the bush in favor of some more appealing pursuit and, in general, to provide an atmosphere of lordly, jungle-wise dignity and restraint.

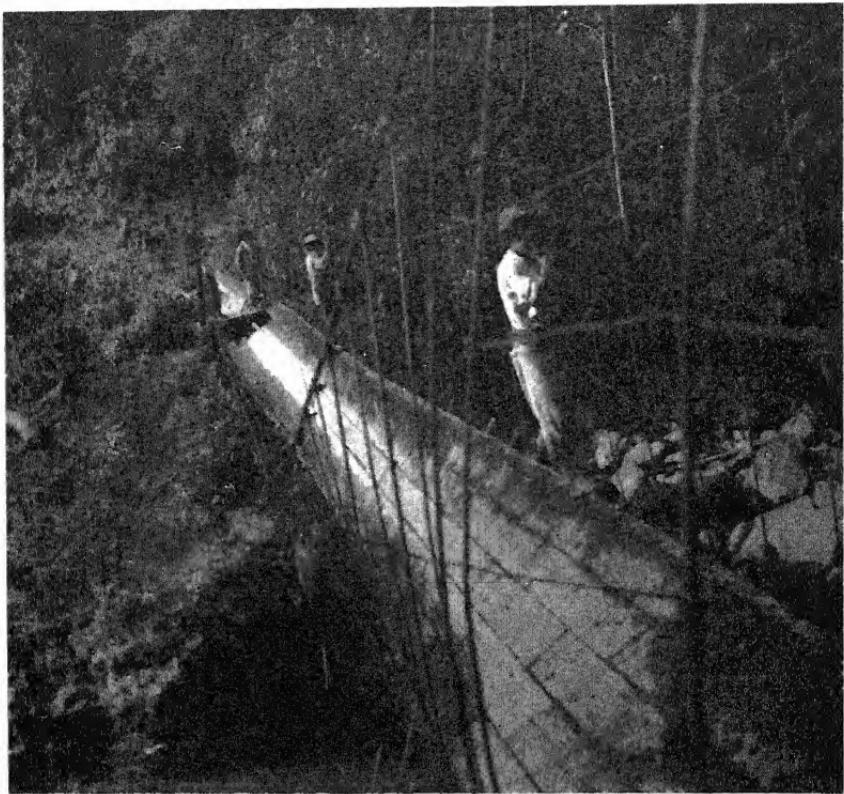
Then, once reaching the river, we should need up to twelve small but solid dugouts for the equipment and for ourselves. Small canoes (eighteen to twenty-five feet long and hewn from a single hardwood log) are always much handier, and even safer, in the upper rapids-filled stretches than the huge and murderously heavy affairs which run sometimes up to fifty feet in length. They can be shot down the rapids or hauled back up through them with a minimum of casualties among the bogas and, what is even more important, with a minimum of risk to your cargo . . . where you can usually replace your bogas but never a lost case of

instruments. Also, a crew of only three or four men can handle a small dugout in almost any kind of water.

Finally, every last-minute detail was down on paper. We had even calculated in advance the approximate number of porters, skillful enough and willing to leave their own territory, who would double in brass for us and act also as bogas. All the while Manuel, who is very experienced and coldly wise in such things, would shake his head one way and say "Así es la cosa" or—at something else—he would shake his head the other way and say the opposite, "Pero, señor . . . esa no es la cosa." When the last calculation had been made for the last reserve man, the last canoe load, and the maximum payments to be made to the maximum number of Indians and the maximum *gratificaciones* to be doled out to the contracting curacas—when all of that was down on paper, he said, "Y ahora, señor . . . And now?"

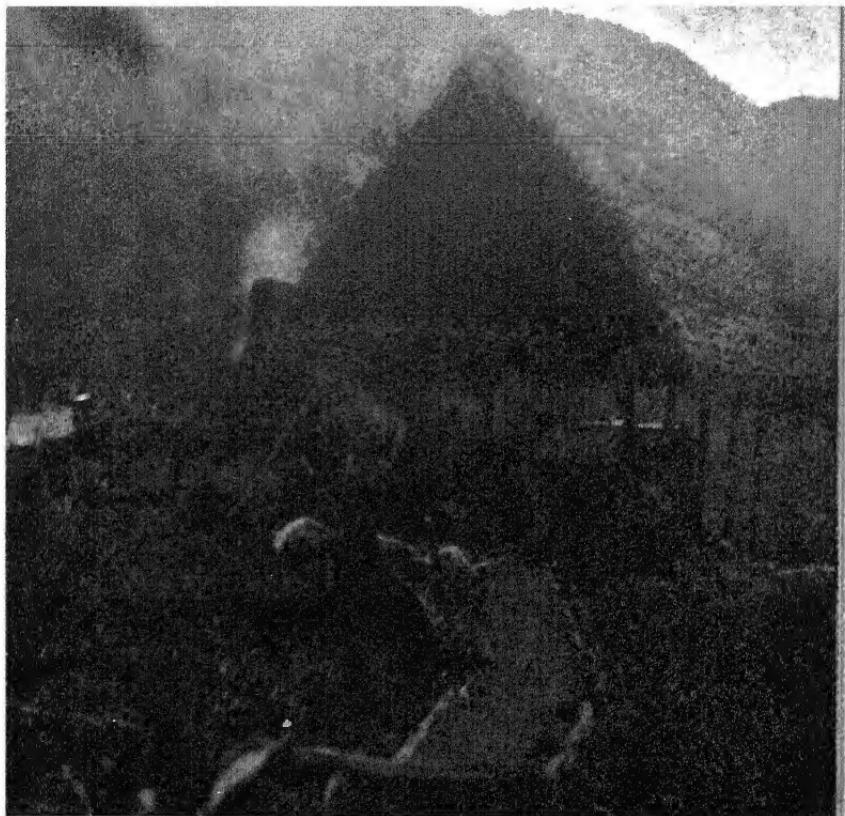
And now, I told him, we were ready to jump off. That if I had missed anything, or if he had missed anything, Inti and Supay and the rapids of Yana-Rumi-Yacu (the rapids-where-the-stones-are-black-in-the-water) would find it out for us. He smiled and looked like one of H. M. Herget's paintings of his Inca ancestors.

I sent him off early the next morning to arrange with the first Indians who were to serve as porters, and to have them waiting at the end of the mule trail at a certain date. At the same time he could pick out those of the men who were to travel slowly with the main party, carrying the camping equipment, and those who were to go ahead as rapidly as they wished and meet us at the head of the river with those cases we should not need on the trail. Also, he was to send out runners to the curacas who lived with their clans along the river, so that we should not have to wait too long for the canoes and the bogas. Everything was arranged in advance all along the line, as far as things can be arranged in



advance in the bush, and I felt satisfied. Word was being spread through the jungle—so that certain old jungle friends would pick up the grapevine message—that I was on my land again and coming into the forests, and that I should need and want the same things I had needed and wanted before.

In three days after the last mule had been blindfolded and loaded in the side patio of the ranch, all the equipment had reached the end of the animal trail. Those three days of riding through the hilly jungle, after not having ridden through it in a long time, contained both the pleasures and the annoyances I had hoped they would. Some of the pack animals slipped in shallow mud, or got bogged down in deep mud, so that their loads had to be removed and then, on



firm ground again, tied back on them with that ingenious Pastaza equivalent of the diamond hitch which only born arrieros seem to know. The horses had to be led through the same bad mud holes and over the same sideslipping suspension bridges; or the streams which didn't have bridges had to be forded where the water ran so deeply that it washed some of the mud from the last bog hole off our boots, no matter how high we held them, and made the cinch straps swell and loosen.

But between the bog holes, and between the times when it was raining and the peons along the way stayed indoors, the people who lived along the trail—and whom I had known for a long time—shouted out to me as I passed. They said that they had heard I had returned to my land . . . and was there peace upon it . . . and how did the señora find her-

self after these years . . . and did I know that Sebastian Flores was three times a father while I had been away . . . and was it true that I was to be among them again?

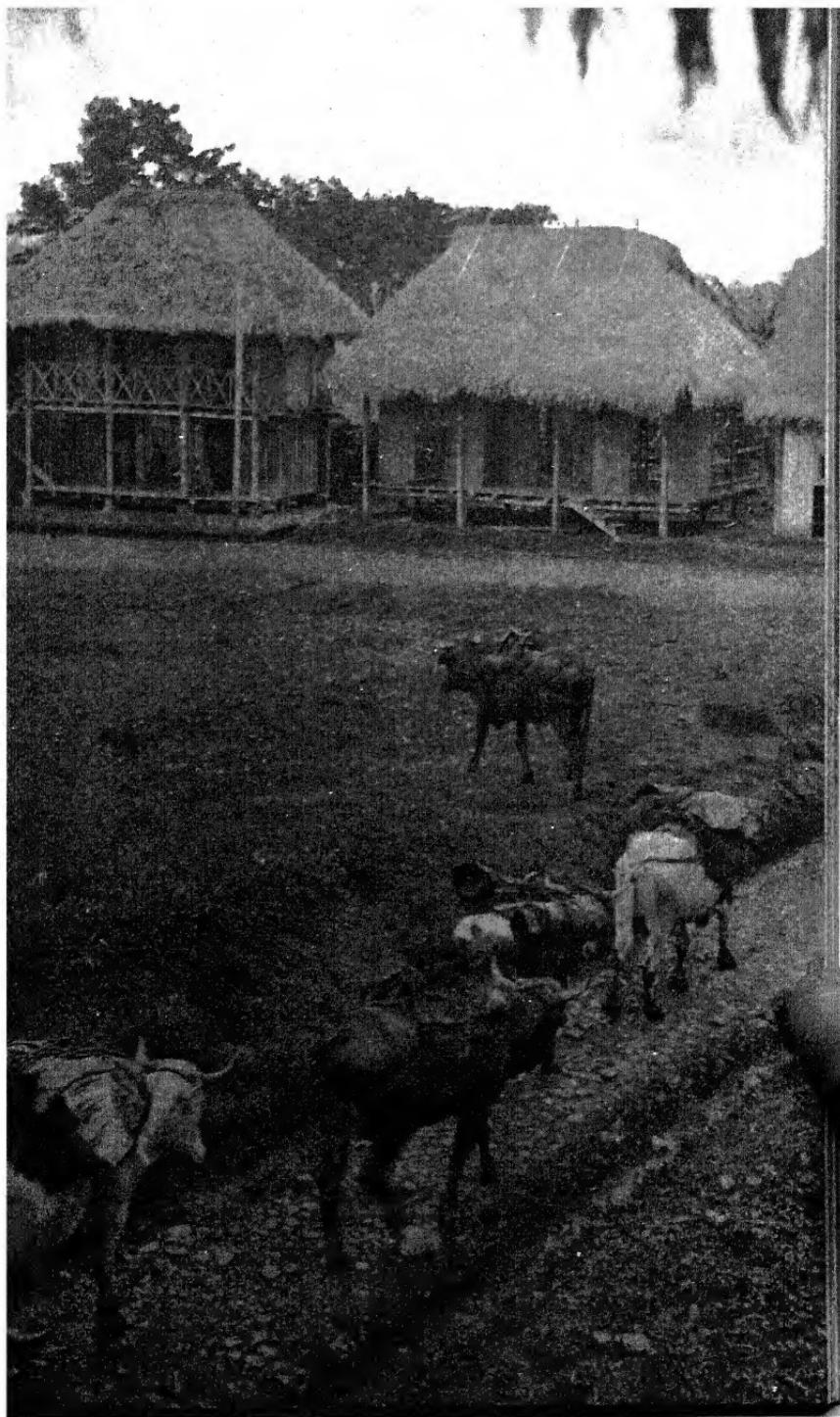
And I called back yes, yes . . . and that I hoped there was peace on *their* lands . . . and that they had told me in Baños the crop of *naranjilla* fruit was to be good this year.

When I talk with the men along the trail I always call them *hijitos*, which means "my sons." They have always liked it, I guess, for the same reason they call me *El Niño*, "the boy," and I don't mind *that* because it means they like me.

On the afternoon of the third day, we reached the end of the mule trail at a little cane-walled, leaf-roofed village which is one of the several towns on the edge of the central Ecuadorian Oriente which are the real jumping-off places for the jungle stretches which lie beyond. It is an untidy and unpicturesque village of thirty or forty houses hemmed in closely by the forest and, when it isn't raining, weighed down softly by the thick, cottony clouds which always seem low in that zone of the sub-Andes.

This little town and the similar ones scattered up and down the eastern slopes of the mountains are the connecting links between civilization, on the one side, and the blank "inside" places, on the other. It is always in them that the last muddy and all but impassable animal trail dies out. Also in two or three of them there are little offices where a single key taps out irritatingly inaccurate telegrams at the bitter end of a single-wire line running for many miles through the upper rain forests.

That thin galvanized line, when you listen to it over a magneto telephone, is itself filled with the noises of the jungle: the wind-swayed trees along its length, the noisy groundings which occur when a tree vine falls across it. And it is frequently dead, as only a mechanical thing can be dead, when some place miles away a landslide pulls down a



couple of hundred yards of it. A disaster like that takes several days to locate and patch up.

But when the line is working you appreciate it greatly, for it is your last mechanical connection with the world of rapid communication and automobiles and policemen. When everything is in order, and the operator is not taking a siesta, you can send a garbled message of sorts in a few minutes out to the world you have left behind. And that world already seems remote because you know that it would take either a runner or a mounted man five or six days to make the round trip between the little jungle-walled village and the other end of the single-wire line where your messages are relayed to an outlying state telegraph station.

The day after we had arrived in the town (and I had paid Julio and told him that I should send him a message in several months when we came out again) Manuel appeared with the first batch of porters. They stood in a silent, wooden-faced row outside the camp while he waved his hand at me and then at them and said again, "Asi es la cosa."

They were the first jungle Indians I had seen since my return, and they looked good to me the way, sometimes, a certain picture or building or book you have once liked greatly seems good to you when, after a long time, you see it again. Their hair was cut squarely in bangs above the broad, deep-featured faces, and their bodies had the sinewy roundness of great cats. Not all of them had put on their black linsilla shirts in deference to the town they had been persuaded to visit; those who wore only the running trunks of the trail stood out in dull gleaming copper against the mottled green behind them.

For a few minutes their silent stares at me while I was talking to Manuel, and then their rapid asides about me to themselves, made me uneasy. It was as if I had lost something while I had been away from the bush—something about

which they knew at once and I did not. Then I remembered a Quechua phrase or two and called one of them over. I asked him his name (it was Ihdeo) and whether he knew a certain Old One whom I had known also. He grinned and ran his fingers around his beaded neckband and said that he knew the Old One, who had moved his people from this place to that place three rain-seasons ago and that they would help me as they had before. After that he asked me if he could have a light load so that he could travel fast, and if I didn't want to buy his monkeyskin pouch, and why there were pieces of blue glass in front of my eyes. When I had talked with him and sent him back again to stand with the rest of the porters, I knew that the bush and the Indians were just as they had always been. I knew also that I hadn't lost anything.

Late that afternoon the porters inspected the long row of equipment cases and bags which they were to carry. It is always a noisy, necessary ritual filled with long guttural arguments as to who gets the lightest loads and who goes ahead to wait at the river (or wherever) and who stays with the white strangers to carry the curious things without which they apparently cannot sleep and eat along the trail. This time was no exception. The quicker among them ran down the row of boxes, lifting them and grunting, and then fastened their chest harnesses and tumplines of bark and vines





around the loads of their choice. The slow-witted ones lost time in arguing among themselves, and squabbling over cases which appealed to them as being easy packs, so that, before they were aware of it, all the really light cases and bags had been marked by the tumplines of the nimbler ones.

A few women had come with the men "to gain something with a load," as they put it. They were the young wives of some of the porters, and were given the lightest of all the loads, though several of the men grumbled at the idea . . . career women not being held too highly in the jungle. But, babies slung precariously on their thin hips, the women kept



up with the men along the worst of the trail. Even *their* packs weighed from forty to fifty pounds.

The Indians who had drawn the camping and emergency boxes, and who therefore had to travel at our own slow pace, were annoyed even though their pay was higher than that of the others. They wanted to be with the others, and run ahead lightly and quickly through the forest with our base equipment so that they could wait for us smilingly and a little disdainfully at the river. I have always been able to understand how they might feel that way about the white men who travel so slowly and so cumbered through the bush. To carry the complicated equipment without which we should be helpless among them, they travel for days along the trails silently and easily as shadows with only a spare trade goods shirt and a cloth bag of food. And we, carrying no real packs, seem burdened and awkward with even our clothes and guns and cameras. They—with nothing—must help us—who have too much. There is always pity mixed with their feelings for the white man. Our magic, I have heard them say, is not good when we are moving in the jungle. It is good only when we are in camp and its tangible evidence is spread around us after the cases are opened, or when we sit still, with a rifle, and kill an animal at a long distance.

We left early in the morning, but not so early as the men and women who were to go ahead of us. The Indians who were to walk with us waited impatiently. They are forever nervous and half afraid when they enter a village of the white man, no matter how small or remote. They remember sicknesses which have been carried out among them from the towns, and they fear the white man's influenza and his measles.

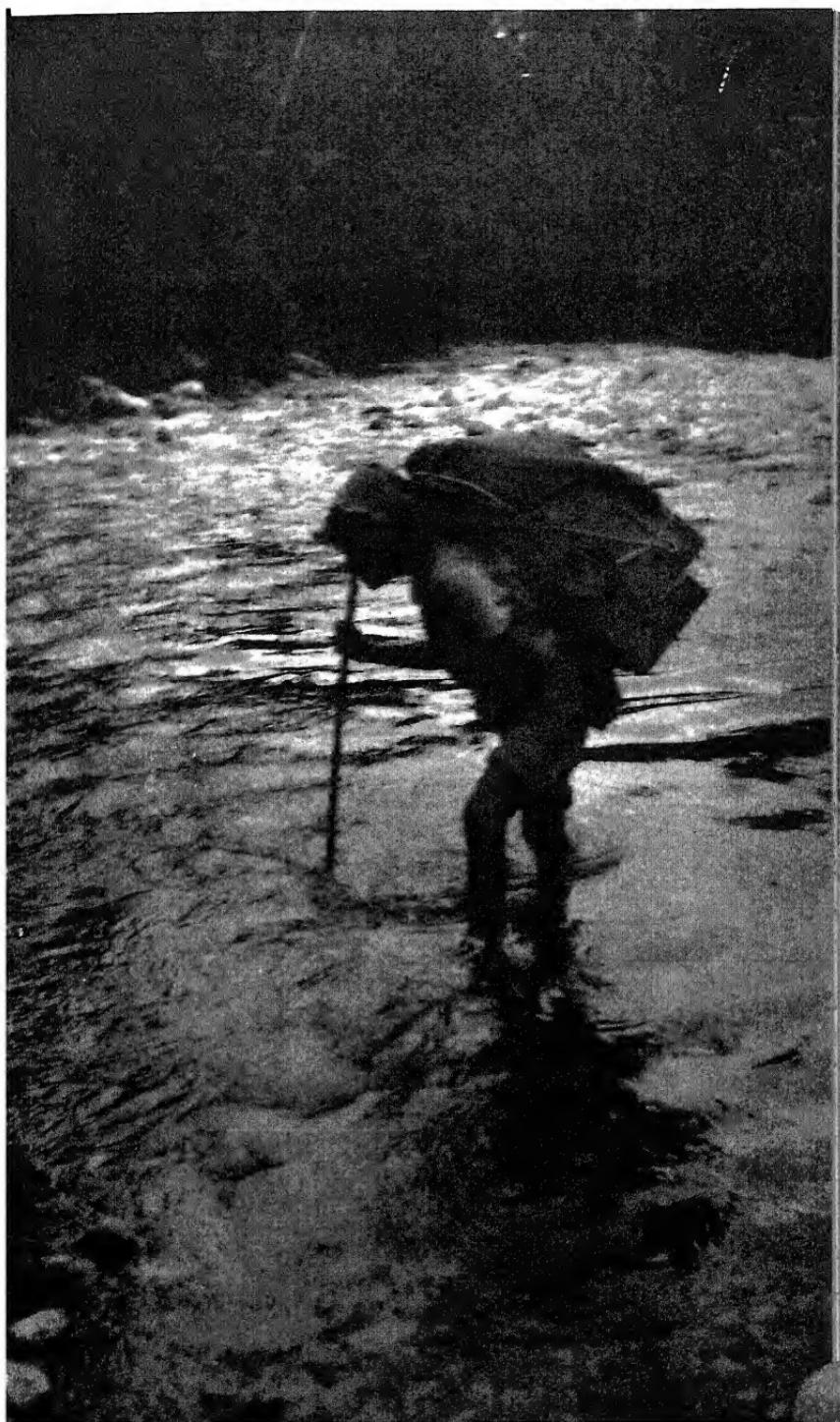
In a way, I was sorry to say good-bye to the riding animals and to Chugo's deep-seated stock saddle when we finally left the little town and stepped gingerly out into the mud be-

tween the slippery rocks in the little jungle trail. I realized that, counting the trail work and the river work, at least three weeks of hard jungle travel lay ahead of us before, with moderately good luck, we could hope to reach the point where I had previously decided to make a permanent base camp.

And even when that permanent camp should have been established, additional radial trips must be made from it. These side trips (which are really fully equipped small-scale expeditions in themselves) last anywhere from several days to a couple of weeks each. They are made for the purpose of collecting material from contiguous regions having the same climatic and agronomic factors. Also, they let me, or my field assistants, penetrate farther and farther into the more remote areas of our own timeless zones . . . those zones which have in them the uncannily alive cultural vestiges of a people otherwise vanished from the earth these several centuries.

A mile or so away from the little town, we have passed the last dismal outlying *chacra* of unkempt sugar cane, and suddenly realize that we are at last alone with our Indians, the jungle, and the gray eternal mud that is the floor of the jungle. After that first mile we are no longer so careful where we put our feet and we do not attempt to keep them dry by stepping fastidiously from rock to rock or, dangerously, from slippery root to slippery root.

It is always a funny thing, the way you come to feel about the never-ending mud of a jungle trail, and the way, when you are walking through it, it seems to dominate you and the jungle and your thoughts about the jungle. When you first start out in the morning—even though it is only one of countless mornings you have similarly started out—you feel almost a moral constraint to keep your feet dry. Sometimes,



when it happens that you have to ford a stream immediately on leaving your camp in the morning, you will even go to the trouble of removing your boots and socks, and wade barefooted and awkward across the stream, although you know that within a little while there will be more streams to cross and your feet will be wet in any event. Or you step from dry place to dry place along the trail, or fight your way through the bushes around the edges of a particularly muddy spot. And, despite the fact that last night your tired camp-boy did not remove within half a pound of yesterday's mud from your walking equipment, you still feel grieved at the things of the jungle when the first mud of a new day smears your field boots.

But after another mile or two, when you really get into your stride for the day, the thick bubbling mud and the odds and ends of things in it which make it bubble come close to being a part of yourself. Then for the next couple of hours you wade through it and rarely notice it as a thing apart, except for the undertones of soft, unpleasant sounds made by your feet and the feet of your companions as they are drawn out of the mud and stuck down into it again.

Above the mud—and before the mud makes you too tired to be able to think of other things—the jungle is beautiful, whether it is a bright day or a dull rainy day. On a bright day you pass through it in an arched tunnel, whose living greenness is dappled with an unending play of sudden light and shade. And all the things that are alive in the jungle are sudden in the same way as the patches of light and shade are, and seem to come and go as they do. The near sounds and the far sounds of the birds, or the sound of an animal in the bush, or the too-quick glimpse of an animal itself, all occur with the flashing rapidity of a bit of motion-picture footage which has been cut too short, and whose image you see only after the picture itself has flashed away.

Besides the mud there are other details connected with the way you walk through the jungle which give you other things to think about. The sub-Andean rain forests are very uphill and downhill and full of unsuspected deep ravines. The steeply uphill parts of a bush trail are difficult and very tiring, and the downhill parts are slippery and extremely dangerous. The mud, of course, is always slippery, and most of the descents are like trying to walk upright down a smoothly iced toboggan slide.

There are also the slim *cuchillas*, or knife ridges, just the width of a narrow trail, which wind unendingly across swamps, or up and down the sides of larger ridges. They rise anywhere from several feet to many yards above the floor of the jungle, and the Indians always cut their trails along their narrow tops. Strangely, they are just as muddy, even on the top, as the rest of the trail and are usually full of slippery intertwined roots over which you must carefully pick your way. I have seen even Indians loaded with a pack fall off them. I have always disliked them, almost more than any other part of jungle travel.

If it is your first time in the jungle, or if you haven't walked in the jungle for some time and have not as yet got back to the feel of it, it is really after the midday rest that your whole body stiffens, and you feel, unreasonably enough, that half a day's walking in the mud is ample, no matter why you are in the bush. It is then that you begin to feel overwhelmed by the gray, clogging stuff. For the first time during the day you commence to wonder what would really happen if you should step sideways on a mud-slippery root and dislocate an ankle or break a leg. It is then, also, that you envy the tireless, easy-striding Indians who, carrying your own heavy loads, seem to skim over the mud rather than plow through it as you are doing. Even the pigeon-toed girls, with their babies on their hips and your duffel bags on their

shoulders, seem worlds removed from your weary self in strength and endurance.

And still later, when you know that the last inexorable hour before making camp for the day has to be got through with somehow, and when every step carries with it what you feel must be the pain of a major dislocation, you commence to think certain things which would never occur to you any other time. For one thing, you frequently and ardently wish that walking beside you—and of course feeling the same as you—were one or more of the people who have written accounts of jungle travel based solely on a glance at a map and a handful of travel pamphlets.

Then with your other senseless thoughts there is likely to come a certain feeling of helplessness, especially when you have been walking for some days with heavy mud-bound uneven steps, and are having a hard time getting used to it. That feeling comes when you realize that only your legs will get you into—and out of—that green-shadowed, endless jungle in which you have chosen to do your work. Unreasonably, you think that no matter how you feel about it or what you think about it, or even how you would like to feel about it, there is nothing in all the world available to you in the way of mechanical transportation.

There is nothing but your own legs, and their ability to keep you up with your Indians . . . and your willingness to rot in the trail before you would let them suspect how you feel. You realize, and then, shrug the thought away, that fatigue, illness, death—the greatest forces you can possibly imagine—could not in any way summon you an automobile or an ambulance . . . or even a white-gloved traffic policeman.

You walk on during that last hour wondering feebly why you had not made the camp rendezvous with the Indians an hour earlier. You feel that every place you have passed for

the last two hours would have been as good a campsite as the place you had agreed upon with the Indians earlier in the day and which is still overwhelmingly distant.

But you always get through (it is just the way you feel at the end of almost every day). Curiously enough, not only the gross tiredness but even the daily memories of it drop suddenly away from you during the half hour you sit down and watch the evening camp being prepared. It is the first time during the long day that you are glad not to be an Indian, and humanly enough, you lie back and shout orders and make the most of it. On the trail, tents are hardly worth the bother, for in as short a time as it would take to erect one your Indians can make a large and comfortable palm-thatched lean-to . . . if you have picked the right Indians and have arranged the thing with them beforehand.

Deftness and quick skill with the machete has always seemed to me a distinct part of the red man's magic. By the time you—and they—have decided that *now* is the time to stop, and that *this* is the place to camp for the night (unless you have already arranged your camp rendezvous) their wise and experienced eyes will already have sized up the available materials. They will have sighted the saplings for the uprights and the ridgepoles, and by some sort of jungle instinct they will know at once the whereabouts of the palms whose leaves they will split down the middle and braid to form the roof thatching.

Without argument among themselves, and by the time they have stacked their loads along the edge of the trail, the divisions of labor have been arranged; and they go quietly and quickly about their business of protecting you and themselves from the quick-falling jungle night.

Several of them will clear the bush from the campsite more quickly than four times their number of peons could possibly do; several others will cut and place the necessary

side and roof poles; one or two will cut and coil up the tree vines which serve to tie the poles together; the rest, vanishing into the jungle, will return in a few minutes dragging huge loads of the palm leaves for thatching.

In rarely more than half an hour the camp is built and ready, and you are invited with brown, achiote-edged grins to move in and do the queer things that white people always do in the jungle: to wash those parts of you which are convenient to wash, and put on slacks and tennis shoes, while one of the campboys from the mountains (not an Indian, and as tired as you are) halfheartedly removes the greater part of the mud from your boots; to set up the cots, the bedding rolls and mosquito netting, and unlimber the primus for the hot evening meal.

Meanwhile, the Indians have built their own lean-to, and you are always amazed at the number of brown bodies which can clot themselves into a many-voiced, perpetually coughing, homogeneous mass within the confines of an area of possibly twelve by fifteen feet. Your own night camp is much larger, and yet four or five of you and your personal belongings seem to overcrowd it.

But at the end of a hard day on the trail it seems cozy and comfortable, especially when you have rested a little and have got rid of as much mud as it is possible to get rid of (which is sometimes difficult if you are not camped beside a stream). Then when you have eaten a hot meal, whose pièce de résistance may have been brought down shortly before by your own shotgun or by one of your Indians with his blowgun (and you try to forget that just a little while ago your meat course was sitting on the branch of a tree making little chattering noises at you and wondering whether to leap away into another tree), the place turns into a really lovely, mottled-green, fire-shadowed bedroom. You feel suddenly that the day has not been too bad and that you are a day

nearer the place you want to be. And, sitting on the edge of your cot with an acetylene lamp focused on your notes, you and your fieldman even make plans for tomorrow.

A short while later you sleep as you haven't slept since the last time you were in a trail camp and had walked miles through the mud during that day . . . whether that last time was only the night before or several years ago. Even the Indians, a few feet away from you in their own camp, can't keep you awake. They never seem to sleep uninterrupted. At any hour of the night you can hear them talking among themselves, and coughing constantly. The coughing of a group of Indians at night is one of the sounds of the jungle which I always remember.

While you are listening to them, stretching yourself in your cot, you stare out through your mosquito netting at the fire, which is always kept burning in front of the lean-to to keep away whatever animals of the jungle may not like a fire. Or you can look straight up and, if it is a clear night and there are no trees above you, see the stars through the holes the Indians have left in the thatching, and wonder at their skill because, in spite of the holes, the thatching is absolutely rainproof.

And while you are doing that, and feeling very good as you stretch your arms and legs before you go to sleep, you hear the sort of sounds the jungle makes at night: the far-off occasional deep sounds of a large animal, or the near-by and more frequent rustlings in the bush around the camp, or the constant whisper of small soft sounds beneath and around your cot and in the roof of the lean-to. Once in a while there is the far-off booming yawp of a hunting jaguar, and sometimes it is only a certain sort of frog which makes a similar sound, and you don't always know which it is. Occasionally, not too far away from the fire in front of the lean-to, you hear something like the low unworried clucking of a hen.

The Indians have told you that it comes from the snake they call the *pitalala*, and you are glad there is no reason for your leaving your cot and going out into the bush at night.

Beneath the counterpoint of all the other noises, the animals, and the insects, and the bush itself, there is the low murmuring undertone of the stream beside which you may have camped. And even while you feel that you have been looking at the fire and listening to the night noises, the jungle is suddenly paling into thin dawn, and you have slept without knowing it. The voices and the coughing of the Indians are louder, and are all around you in the bush as they go about their morning businesses; and your head porter is standing outside shouting at you that Inti is already rising . . . that this will be a short day on the trail unless you leave that place at once. . . .

Chapter Eighteen

The White Water

One morning, as we started the winding descent of the last cuchilla, there was a sudden break in the forest and through it we could see our river cutting its narrow sun-bright way across the blue-green of the jungle ahead of us and below us. It was our first view from the trail of that particular bit of white water in which we were interested, and toward which we had walked so far. The river was a good many miles away, and the worst of the trail—the agonizingly slippery descent of the last foothills—still lay ahead. But somehow, looking at that distant ribbon of water glittering like tinsel against the green jungle, the mud did not seem so thick, and we felt considerably better about a number of things.

Then, as we started the actual descent, the forest closed in upon us again, and we were once more going slowly through the endless tunnel of overarching green lushness like a string of ants crawling down a high-grassed bank. But we knew now that the end of the tunnel was not too far away, and that its end was in clear water and in the swift passages through the rapids.

Being very tall, and still not completely used to the mud of the trail again, I gave each of two reserve Indians an end

of rope and, holding on the middle of the bight, had them act as drags for me while I scrambled ahead of them down the long knife ridge. I felt like a child playing horse, or playing at being a charioteer in some imaginary hippodrome. Only this time the idea was reversed, for the horses were behind me. It was quite a lot of fun in the bright jungle morning, and I shouted things back to the Indians about when to hold the rope and when to let it go slack, and they, walking lightly behind me, murmured politely, "Arí, arí . . . yes, yes" or "Maná, maná . . . no, no."

After a few hundred yards, the Niña also thought the rope idea might be fun, and called up a couple more reserve Indians so that she could do it too. In a few hours, and after a great many dubious jokes on the part of the Indians, we finally got down from the ridge, and commenced to find our way across the last couple of miles of level intervalle land on the near bank of the river.

When we had left that last long ridge behind us we had a feeling of lightness and accomplishment in realizing that there were no longer any *real* hills between us and—if we had wanted to go that far—the Atlantic Ocean. We had reached the head of canoe navigation where, in the Oriente, it is farthest from the Andean wall and is supposed to be the most difficult to get to. For that reason the river we were coming to and our zone of work, which lies some days farther down that river, do not have many expeditions and are still unspoiled for us.

As we broke out of the jungle wall in the late afternoon and walked for a while upstream on the stony river beaches in order to get to the place where we should be able to cross, we caught our first glimpse of the outlying houses which were part of the large Indian town on the far bank. It was from that town that we should get our canoes and our bogas to go on downstream.



The first houses we saw were, like most of the clanhouses of that region, roughly elliptical in shape, with a high gabled roof covered with palm thatching. There is not a nail in them, every joint and crosspiece being grooved at the proper angle and then tied together with a sizing of tough vines. The walls are strongly palisaded with slabs split painfully by hand out of the iron-hard chonta wood, and make an ideal defense arrangement. An enemy approaching the house is unable to see inside it, whereas the people already in the house not only can see him easily, as he comes across the cleared area around it, but can shoot him with no difficulty at all from between the nicely staggered slabs.

Indians were moving about between the houses and the wall of the jungle which grows compactly tall behind their little cleared plantations. As we came up the open beach, some of them stopped and looked at us, and we knew that

if they had not been Indians they would have waved and asked us how we were. It all looked and felt snug and domestic after our days on the trail.

When we reached the place where it was necessary to cross the river we found a dugout, manned by an elderly woman and two young boys. They were waiting to ferry us, for, of course, they and the whole village had long known that we were coming. After the several trips necessary to get everything we had with us safely from one side to the other, we climbed a winding stone-filled path up to the main village on the tableland some two or three hundred feet above the river.

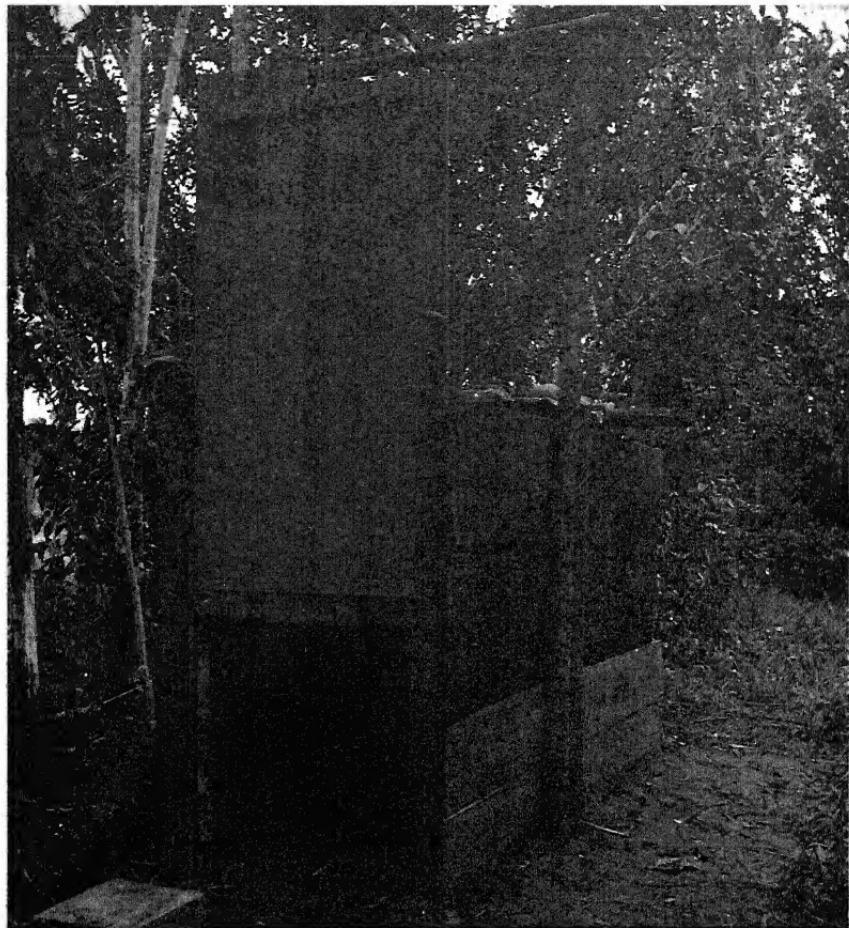
As soon as we had arrived, tired and very glad to be there, we were immediately offered a bamboo house in which to stay as long as we wished, and eager boys brought us water and other necessities. In as short a time as it took to set up the camp and take off our muddy trail clothes, the gentle people who lived in that town made us feel at home . . . as if we had already been there in comfort for a long time.

There was a wait of a few days in the village while the canoes we had ordered in advance were assembled—now, the Indians said, that we were really among them—and the bogas prepared themselves in mind as well as body for the adventurous thing—to them—of going down the river into strange country and among strange people. It was a pleasantly good wait . . . restful and relaxing. The times when we weren't just resting, or paying visits to some of the clanhouses, we rearranged the equipment. Then we laid out preliminary field notes and felt good about starting the actual work in that way. It wasn't the sort of annoying, nerve-racking delay one occasionally experiences in the bush, when for some reason the canoes are impossible to obtain, or the Indians get drunk for a long time, or are not as friendly as they might be and do not feel like working for you when you need them.



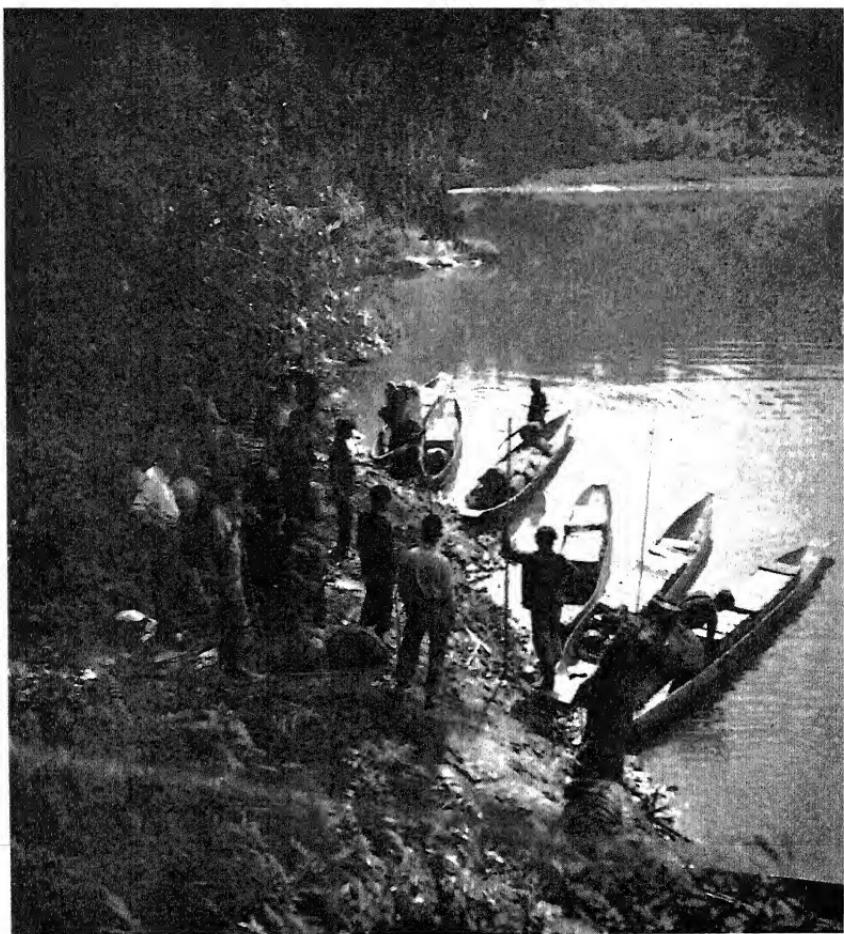
While we were waiting and enjoying ourselves we came to know again—and like intensely, as we had before—an aged, white-cowled Dominican priest who had spent forty years in that place among the Indians. He was between seventy and eighty, he said, but his lean, jungle-leathered face was as ageless as the bush itself, which had lived and died and grown again around his comings and goings during the years he had been there. The Indians loved him greatly (usually they despise missionaries) and had been patient and tolerant with him. That was because, some of them told me, he had not wanted to change them too greatly as he tried to make them believe in the hard-to-understand things which had kept him among them for such a long time.

For all his years he was youthfully nimble, and was as wise in the ways of the jungle as any curaca. Even his Spanish had a quaint Quechua inflection, and he talked and thought



much as the Indians talk and think. We were delighted with his gracious wilderness courtesies and felt sorry that there was no real way of repaying his hospitality.

During the few days we were with him on the return trip I built a large roomlike box trap in which he hoped to catch a jaguar which had been doing damage among the chickens and dogs of his people. However, we left the day after it was completed, so I have never known whether it worked. I hope that it did catch the tigre. That at least would have been something for him, since he had told the contracting curacas to get together their best canoes and the best of their young men for us.

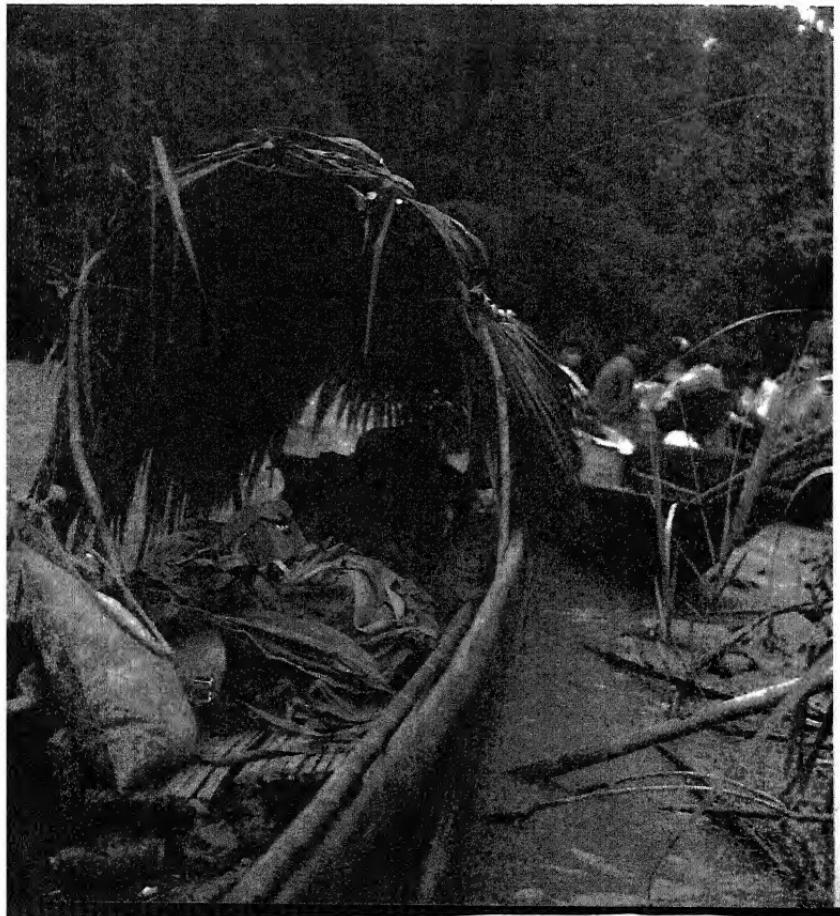


I was sorry in many ways when we were ready to leave the village in which everyone and everything had been so pleasant and helpful: the ancient priest, the Indians, the Ecuadorian army sergeant in charge of the one-squad jungle outpost (Sargento Martinez, who was a very good man), and the small frail-walled bamboo house in which we had stayed.

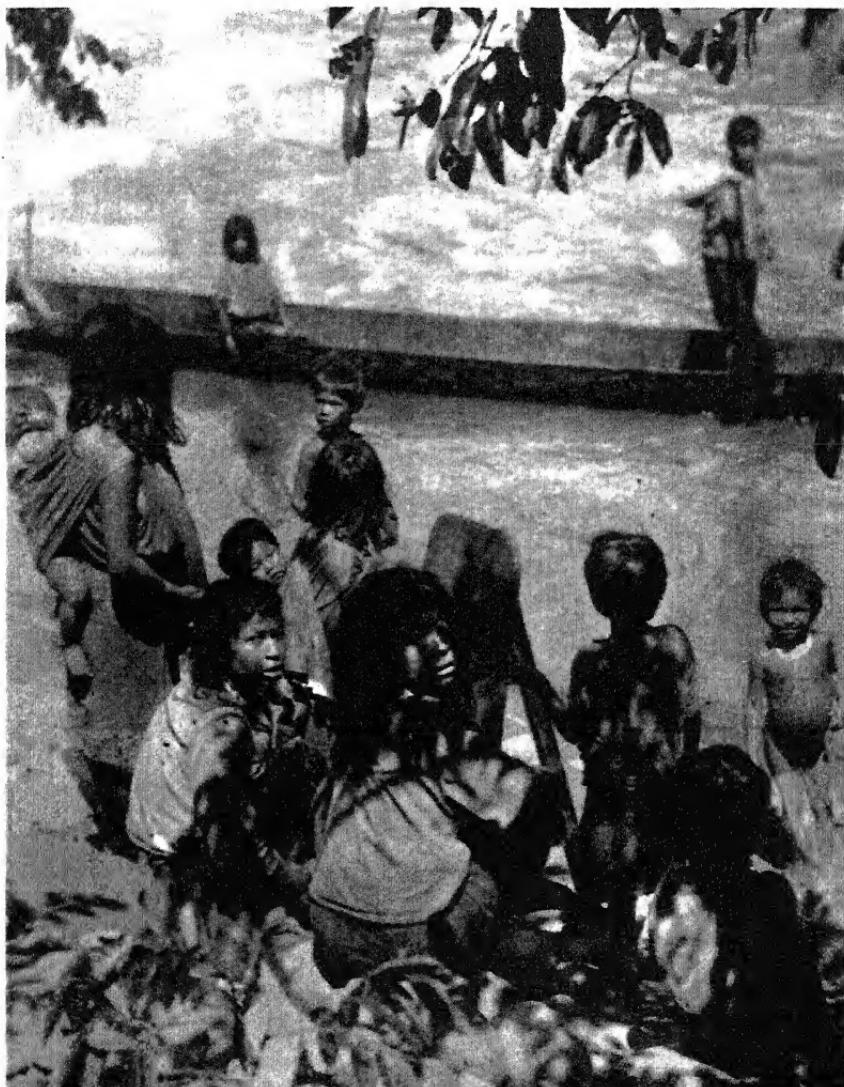
Very early one morning we went down to the river, where a fleet of hardwood dugouts was drawn up along the beach. Almost all of them were open canoes, with bamboo platforms in the bottoms on which to place the cargo so that it would be kept dry underneath; tarpaulins overlaid with large banana leaves would keep it dry on top. Two of the best

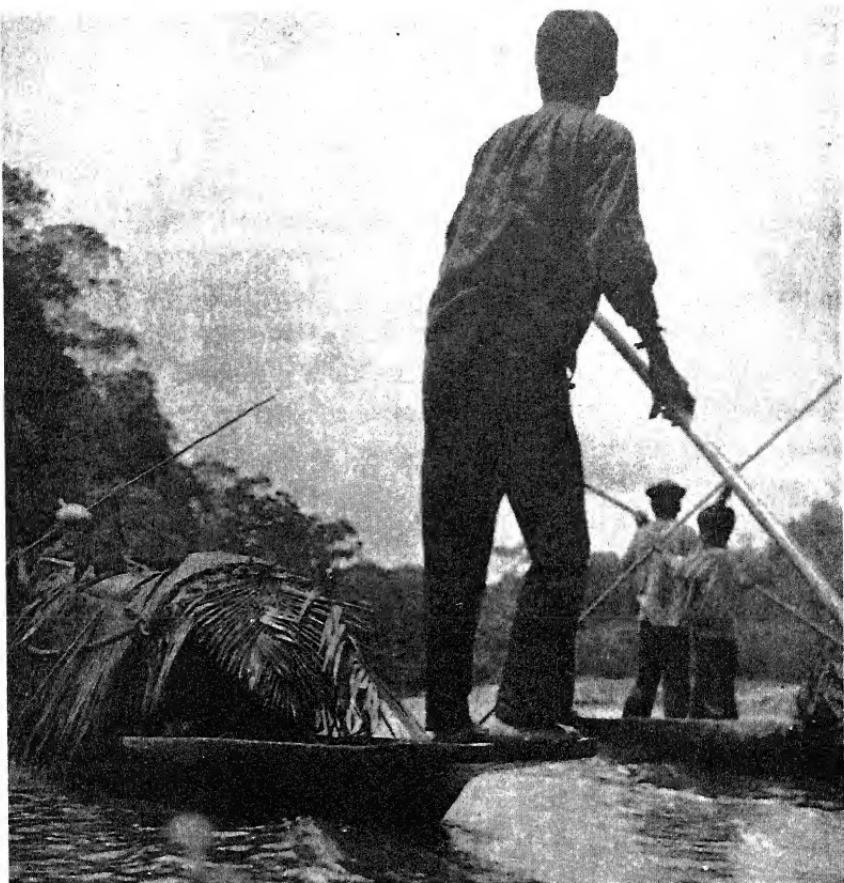
dugouts had their waists arched over with neat, tight-woven palm thatching. Those were for us. The low roofing protected us from both the sun and the rain while two Indians, *puntberos*, stood on the open bow, using their poles and shouting out steering directions to another Indian, called the *popero*, who sat far out on the overhanging stern and steered with a broad-bladed, painted paddle.

The early morning mists prevented our seeing even as far as the first downstream bend. Although the river flowed quietly enough in front of the village, we knew that the first rapids started just below the bend and that the river was broken with them every half mile or less along its course, until it got far past the point where we wished to make our base camp.



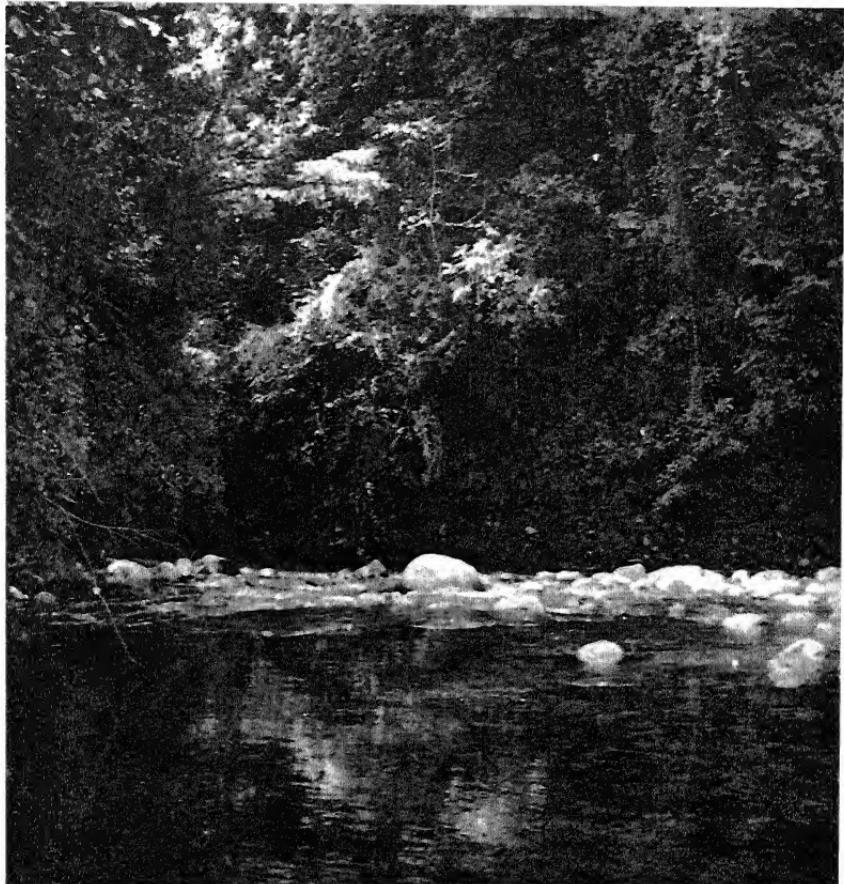
While we arranged the cameras, and put in bamboo seats, food, water, and whatever else we wanted for our own comfort in the two thatched-roofed dugouts, the bogas aided by the women loaded the cargo canoes. After they were filled, but before the cases and bags were covered with the tarpaulin and leaves, the men waded out waist-deep into the water with each canoe and tried its balance. The women who had been helping them now stood on the bank giggling and shouting advice about the trim of the canoes, and annoying





the men when they cried, "Yapa, yapa, runi . . . chaimachuri. . . . Too much, *too much*, man, put it over there!" or "Caibi-chura, ñuca rucu, caibi . . . chasna! . . . Shift it here, my old one, here then!"

When everything was ready, the cargo canoes left ahead of us and, as the last one faded into the mists just above the bend, our own canoes shoved off. Behind us on the white beach stood the priest and the sergeant. They waved good-bye to us, Spanish fashion, with the backs of their hands, and shouted out things about our having good luck, that they hoped the field radio set would bring us lots of music from our own land, and that we should go with God, as they also say in Spanish. The women who belonged to the bogas



stood on the beach too, their faces decorated to correspond with the red and black designs which mean I-am-taking-a-trip painted on their men's faces. The women did not shout anything about good-bye or having good luck. They simply stood silent with their arms raised high, the jungle sign for farewell.

All the days were days of different kinds of water . . . deep, calm stretches, when we hugged the jungle banks and looked up into the overhanging foliage, or violent, white-watered chutes, or long treacherous rapids, sometimes shallow and sometimes not, where the Indians got out and pushed the canoes, and where, when the going was too bad,



we also got out while the cargo was being portaged around the boulders or down the falls. The days were broken by short rests morning and afternoon and by longer rests in the middle of the day, while the Indians ate their thick chicha (the kind they take on a trip) and begged half-sticks of dynamite so they might catch fish.

At night we camped along the beaches, sometimes in the bush itself and sometimes, when we were lucky, in one of the Indian houses which are used only during certain planting seasons and happened to be vacant the nights we wanted to use them.

One thing which has always symbolized travel for me on the swift, winding rivers of the Oriente is the frequent stopping along the beaches of single canoes which pull suddenly out of the irregular straggling line of the flotilla to get a fresh supply of *taunas* (canoe poles) made only from the *pindu* cane. The tall, graceful *pindu*, with a spreading frond of lanceolate leaves at the top, is ringed like bamboo and grows in great impenetrable clumps along the riverbanks.



When it is cut down, the leaves removed, and the wrist-thick stalk sharpened at one end, it makes a light and easily handled canoe pole some ten to twelve feet long. The only trouble is that it rapidly gets water-soaked and breaks. But the Indians will use no other kind of pole, though there is available much material which would last considerably longer. Possibly they would miss that particular excuse to make frequent stops.

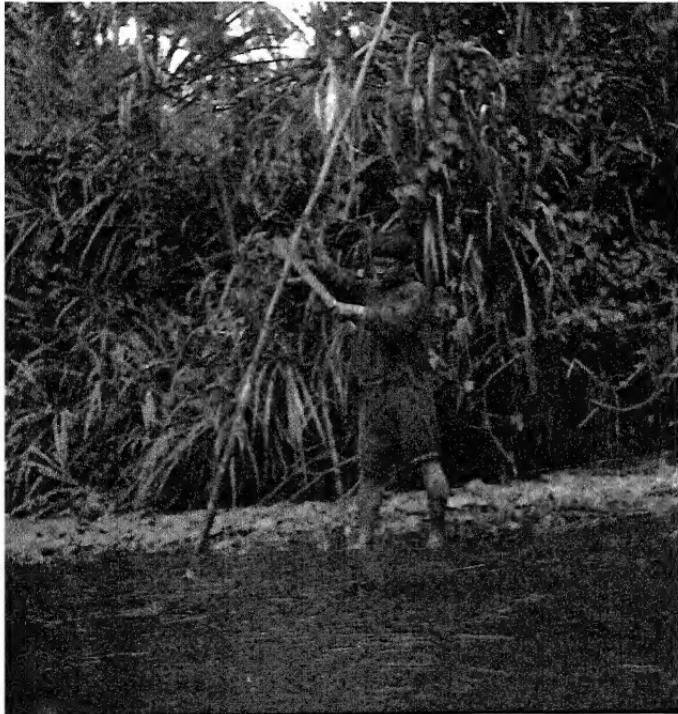
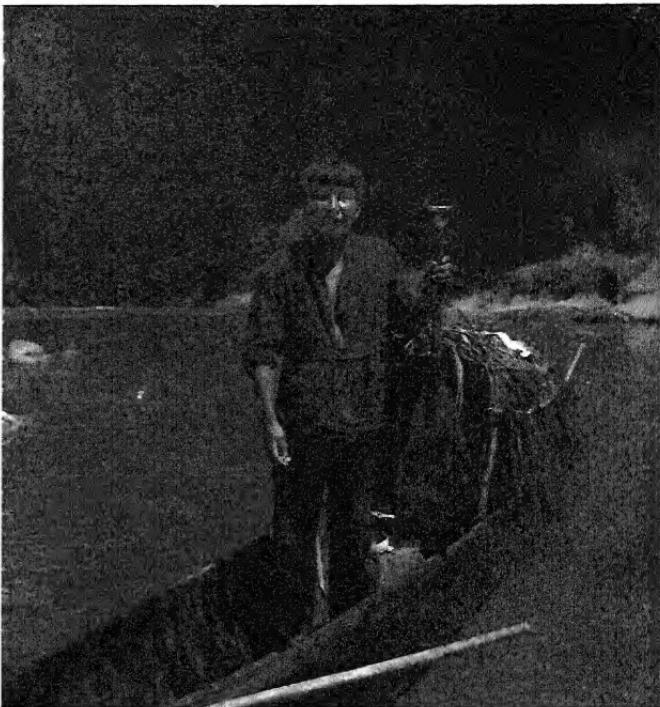
Every little while during the day, when the water was calm enough, I could hear the sound of chopping with a machete just ahead of me. In a few minutes my canoe would sweep past the beach where the crew of one of the other canoes was cutting poles. Soon that canoe would catch up with mine and pass it, and possibly my own canoe would stop for a few minutes of hurried chopping because it needed new taunas. The sight of the clumps of pindus, and the spray-glistening rivermen chopping them down, made me remember another reason why they insisted on using only the pindu canes for their poles.

Once, too many moons ago to think about, the Old Ones say, all the rivers ran in two directions at once . . . one side up and the other side down. That was in the days when Amarrón, the great boa, could turn people into stone by breathing on them, and when the Tuta-Pischu, the night-bird, had a different cry . . . before the Inca princess came to live in its body and made it say the things you can still hear it say at night in the jungle.

In those days, the Old Ones go on, when all the rivers ran in two directions, the bogas had a very easy job. They never had to paddle because they let the current take them as it would. So they got lazy, and, because in those early days they had just learned how to make the intoxicating kind of chicha and *cachasa*, they went on great sprees, doing nothing but drink. Because of that, the Beings who ruled the jungle suddenly punished the Indians by making the rivers all run in one direction. They chose the downstream direction for the rivers to flow in because it seemed easier to them at the time.

For a long while, the Old Ones continue, the Indians were in a bad way on account of it. They could go downstream easily enough, but getting back up was a different matter, for they had never learned how to go against a current. Finally the Beings, tired of seeing so many Indians go downstream and never get back again to their clans and their plantings of yucca, gave them a great gift. They caused the pindu cane to grow along the banks of the rivers and caused the Indians to know how to cut it down and make it into canoe poles. And ever since that time—the Indians insist upon it—they would rather not make their taunas out of anything else. The Beings might punish them again. . . .

I have always liked the rivermen. There is in their life and their work something that is lacking in the other jungle



Indians who do not use the rivers so much. The river dwellers have stronger, more wiry bodies; and the fact that they have had to add the skills of the river to all the rest of their jungle craft makes them seemingly more alert.

Although they are the best and most intelligent of the jungle's "public carriers," their ultimate and most refined means of transportation are their large dugout canoes. They have never seen even the most primitive wheeled vehicle (their trails are only muddy, ribbon-wide footpaths) and have no concept whatsoever of getting from one place to another except by means of their canoes or their legs. For that reason they are, even more than most Indians, completely fascinated by illustrations and pictorial advertisements in old magazines, especially those which show means of transportation of which they have never dreamed.

Like many primitives, they at first have great difficulty in focusing their eyes correctly upon the piece of paper which they hold at varying angles in front of them. And, even when their distance-accustomed eyes do learn the meanings of the illustrations, they still have no idea of a scale of size.

It is difficult for them to believe that a picture of an automobile or of a horse could be so much smaller than the real automobile or the real horse. Sometimes it is only when I show them a picture of an automobile with people in it, or a horse with a man mounted on it, that they believe me—knowing already the size of a man—when I tell them that the pictures are really small images of larger objects, and are not things in themselves. At other times, when there are no people in the pictures, it is more difficult. I have some friends among them who still believe that an elephant, whose picture I showed them, is a small animal living in whatever place white men come from, and which never grows larger than the little marmosets the Indians keep as pets.

Once, seeing a picture of a house, they crowded closely

around me feeling the glossy surface of the print and exclaiming, "Jaie! huasi . . . hua-hua huasi! . . . Ah! the house must be a baby house! And among your people there are also houses large enough to live in?"

Their favorite picture—and one they asked me to show them over and over—was an illustration in an old *Saturday Evening Post* portraying an actual dugout canoe. The Indians grasped the fact of the canoe at once, and those who were looking at it called for their friends to come and share it with them. Some of them, when they saw it for the first time, tried to put their hands into it and were baffled because they could not. But even so, they thought for a long time that, because the picture was small, it represented only a toy dugout, such as their children carve from pieces of wood. . . .

River travel is clean and comfortable, especially when you compare it with the jungle trail; and it always has a certain pleasure of its own, even in the moments when you are shooting through a rapids and wonder whether *this* is the time you will capsize and lose your collection cases. Indeed, one of the few real dangers of jungle travel lies in the rapids and the equipment losses which they cause. But you are likely to grow weary of them, even apart from their risks. In the upper stretches of the rivers they occur apparently unendingly from every few hundred yards to every few miles.

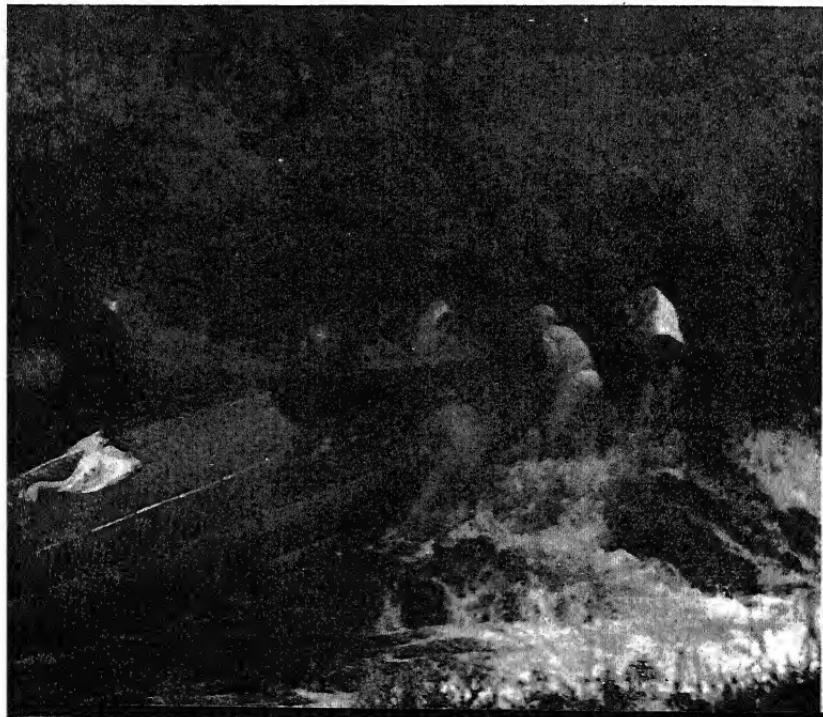
The passing of rapids is always the same. At the end of a stretch of quietly smooth water, a line of foam and rocks drawn across the stream looms up too swiftly ahead. The bogas shout warnings to each other. The men in the bow arch their bodies expectantly while the man in the stern drops his paddle and picks up a pole.

Suddenly . . .

The leading canoe (which is mine) rockets crazily through the snarling, white-water chute—swift-water-where-the-taunas-

break—and the red-footed, green-fringed banks close in and rush by with a confusing swiftness. Flecks of foam leap over the hewn wooden lip which forms the overhanging prow of the long dugout; the open sky directly above rocks violently back and forth over my head. And “Caima sinchi! Mayama rangui! . . . Over there, strongly! Go closer toward the shore!” the puntero cries as he slashes at the rocks with his pole. But *I* have the sensation of standing still; for some reason these high walls of jungle green, supported by their red-clay banks, are rushing past leaving me motionless. . . .

During the worst moments, a running inventory of the entire cargo flashes through my mind. That mental inventory is complete, even neat, in form. I can actually see the typed pages of my notebook against the wave-dancing prow. Eleven cases, two bags, and a big tent . . . that's Emilio Mayanche's canoe. The one that is covered only with large green leaves for want of an extra tarpaulin. And so I remember all the cargo in all the canoes. At the same time I remember what would happen if even one of them was lost



on the way inside . . . if the food was to go, or the specimen presses, trade goods, or the arms or . . .

Involuntarily, as the huge water-rounded boulders speed past me like fast dangerous trucks in heavy traffic, I close my eyes. Then I smile and briefly forget the trade goods and the medical department and the presses. I remember old Judge Daniels's method of driving through downtown Washington in the prestoplight days of automobiles. Despite his legal eminence, the old gentleman had never been able to master thoroughly the technique of driving the early cars. Above all, he feared being brought to a standstill in traffic, for the chances were even that he would be unable to fight his way back through the old nonselective shift to high speed again. Consequently, as soon as he was fairly upon an intersection, he would close his eyes, step moderately upon the accelerator . . . and count ten. During the counting, he probably thought of some calm, judicial prayer, but that part of it I never knew. In any event, at the count of ten, he would open his eyes, smile graciously at whatever terrified passengers he might have with him, and remark that *there* was another corner behind him. He never had an accident. . . .

When we are finally through the chute and my dugout is resting in the quiet pool at its foot, I turn to watch the other canoes safely through. One by one, they make the dash before coming to rest on the narrow strip of gravel beach beside me. And always I wonder how the skillful bogas managed to survive that unending series of rapids we have come through in the last few days . . . and if their skill and luck will hold in the others with which the whole upper course of the river is strung for many miles ahead.

Chapter Nineteen

Inside

Early one afternoon we arrived at a fairly large Indian town . . . a lovely, forest-lost, straggling village. It was the place I had previously decided upon as the site for our permanent base camp, for it is directly on the edge of the zone throughout which I wanted to work by making radial trips. Once more, I hoped that I should see curare being made there and, learning all that I could about its making, bring back that knowledge for those who needed it.

The main village is high up on a mesa and overlooks a long single-S bend in the twisting, tree-shadowed river. About a half mile above is a broadly curving beach which forms the upstream end of the S-bend. I noticed it as we came by, and landed there for a few minutes. It was just the right distance away from the town for a campsite.

The beach itself is filled with a mixture of fine white sand and small water-rounded pebbles. Behind it the bank rises steeply and suddenly for about twenty feet, and gives way to the level edge of a large stretch of intervalle land. It was high enough to escape any sudden flood which might sweep along the river.

In making any sort of camp—for one night or for several months—the possibility of flood must always be considered.

The upper Amazon streams and rivers usually rise high up in the Andes and are fed along their upper courses by the violent Andean storms and the melting snows; farther down they are fed also by the heavy cloudbursts of the high rain forests. I have seen them rise a full six feet in a single hour. When that happens they can—and often do—sweep away in their reddish, clay-filled water everything which was once a camp . . . tent, supplies, dugouts. And if the people in the camp are not quick enough, or are sleeping soundly, they will be washed away too.

If you are traveling upstream and meet a flood you make at once for the nearest high bank and wait there for several hours or several days, swearing with your men at the river. There is nothing else to do, and you are lucky if you have something with you to read or if you can invent some work for yourself and your bogas. Sometimes, when you make your landing in time, you can drive a heavy stake—notched every six inches—into the beach and then look at it every little while to see how quickly the water rises and how slowly it goes down, and talk with a dead-pan impatience to your Indians about it.

If you happen to be going downstream, and a flood comes up behind you, you can—if it is not altogether too high—ride down the river on it, going much faster than the huge jagged tree branches which swirl ahead of you and behind you. The rapids are “smoothed out,” and you shoot through them with a speed that leaves you dizzied. But your bogas must be very skillful. If they are not, you will be wrecked and—in the madness of the red flood waters—probably drowned. It would be like driving an uncontrollable car at its highest speed for miles through dense city traffic without being able to stop for anything.

The day after landing in the village I returned to the little promontory and satisfied myself that it was where I wanted

to live for several months and do my work. I saw that if all the small bush and a few of the trees were cleared away, a good working area would be left. It would have just the right amount of shade from a few clumps of tall, feather-leaved bamboos and a single great *mata-palo* tree with a huge screen of lianas hanging from it. In the base of the seamed twisting trunk of the *mata-palo* was a nest of giant sauba ants which we should have to exterminate. I found out about them when Manuel put his hand on one, and was a sick and feverish man for three days afterward.

Also—that first afternoon—I heard the rounded whistles of a band of partridgelike *perdices* in the bush back of the point and saw the tracks of both a *guatusa* and a large *capybara* cutting across the beach. When I heard the birds, and saw the tracks, I knew that it was going to be even better there than I had thought at first.

The wide beach extending around both sides of the point was clean and white, and would be excellent for bathing. It even had a deep indentation on the downriver side, which made a safe and handy canoe port. That was important, for, owing to the floods, the few dugouts we kept permanently at camp would always have to be drawn far up in the "bay" and made fast to the nearest trees with long doubled ropes of vines.

The following day, when I visited the beach again to drive some stakes into the ground to locate the corners of the camp buildings, I found out that we should have good neighbors. That is another matter important to investigate when your neighbors are going to be Indians and, being Indians, have certain ideas about the communal sharing of property which might at times prove embarrassing.

As it happened, I had previously made the acquaintance of the particular family who lived nearest the point, so that I knew everything would be all right. The clan lived about



two hundred yards farther down the beach, in a large open-walled house which, as Indian houses go, was kept fairly clean. They were headed by a young and intelligent man who had been a canoeeman for me some time before. Since I had last seen his family, his father, the Old One of the clan, had died during an epidemic of measles, and the oldest son, my friend, had assumed the jungle responsibilities of the entire clan. He was grave and courteously hospitable. After I had talked with him awhile, I came to know that he was maintaining the lore of his people and would help me in whatever I wanted to do there.

The other families which were thinly scattered through the woods above the village were equally friendly and hospitable. I arranged with as many of them as I could for what I hoped would be a more or less continuous supply of the

lean, rangy chickens which the Indians raise, as many eggs * as possible, bananas, other fruits, and yucca—the potato of the upper jungles.

Among the fruits which the villagers brought us, and for which we paid them with crude rock salt and minor trinkets out of the trade goods, were pineapples and papayas of a size and flavor I have seen only in that particular region. The papayas of Florida and Cuba are small and tasteless compared with those huge, flavorful, firm-meatied fruits. And the pineapples of that unexploited region, as far as we were concerned, made the Hawaiian fruit pale into a forgotten insipidness. Even minus their crown of fragrant spiced leaves, some of them were eighteen to twenty inches high and weighed a good twelve pounds or more. They were soft and fiberless, and their juice mixed with the papaya juice made us forget that there had ever been other things to drink in the world outside.

When we first landed we were given a small, bamboo-walled house built on stilts in the central village. This served as temporary headquarters while our camp was being built.

As soon as I had decided on the site I called in the curaca

* Although eggs are the most acceptable and safest food (coming directly to you as packaged and sealed by the producer) you can possibly get in the bush, and are usually obtainable from the Indians, they were scarce on this trip. When the supplies ran low, and the runner system did not always work, we needed them badly. Somehow nothing quite makes up, on the food list, for eggs and the manifold ways in which they can be used to bolster up the restricted menus of the bush. Possibly it was the wrong season, or the hens weren't feeling that way. Whatever the reason, they were few and far between, and I can still hear the high-pitched plaints of the women when they would bring us fruit but no eggs and were afraid that we should be angry with them. It is a memorable bit of Quechua and jungle biology: "Luluncun? Maná luluncun! . . . huan ñuca sinchi quilla cari-huallpa? Jajan! MANÁ LULUNCUN! Eggs? There are no eggs! . . . and with our so-strong so-lazy rooster? It makes us laugh! There *are* no eggs!" Maná luluncun . . . we laughed about it too—for a while!



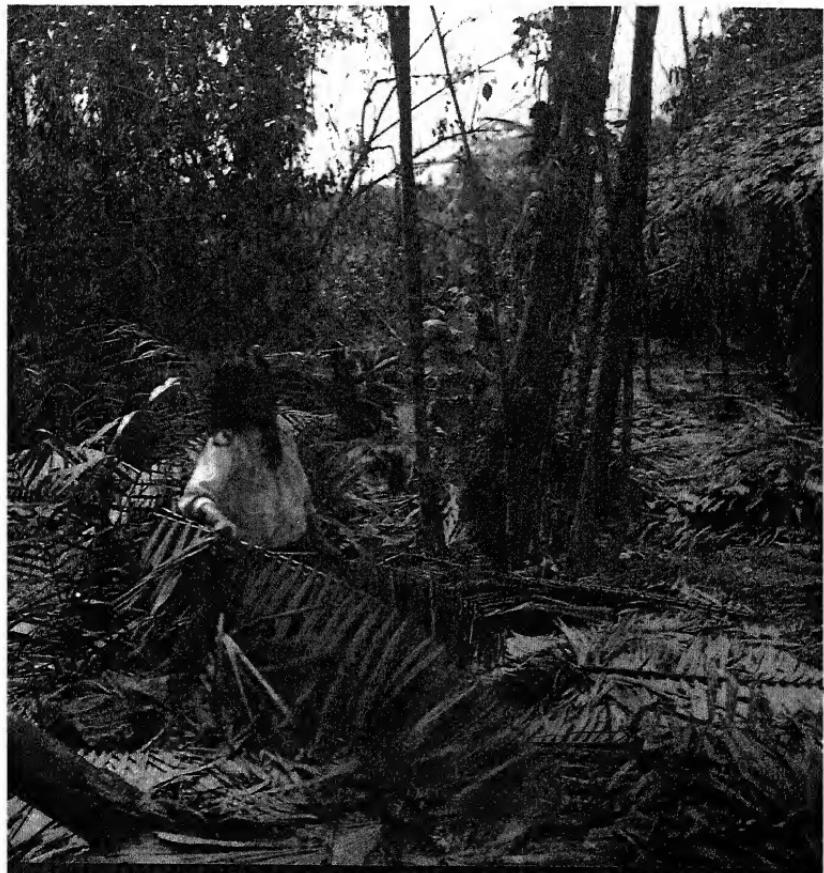
of the village and, without at once telling him what I had in mind, dazzled his aging sun-wrinkled eyes with an imposing and gaudy array of trade goods. After the usual preliminaries, he sat in silence for a few moments and looked at the jungle wealth assembled in the opened cases. Then, suddenly forgetting his jungle dignity, he spat quickly between his fingers, got up from the floor and commenced to examine the knives and cloth and beads. I said nothing, and let him go ahead.

After he had pawed them over for a while and had apparently worked himself into a state of almost uncontrollable lust for the treasures, I told him I had brought the greater part of what he saw solely for himself, and for his people, and that I would like to exchange gifts with him and with them. He nodded slowly, and managed to split his cord-thin lips into something which resembled a smile. Then, when I asked him if we could make words about the presents I had brought, he squatted down on the floor so quickly I thought

he had fallen. Spitting vigorously again and again between his fingers, he told me to make my words with him . . . that he and his people would be my brothers. Then he looked back again at the cases, and kept his ebony eyes on them most of the time I was talking.

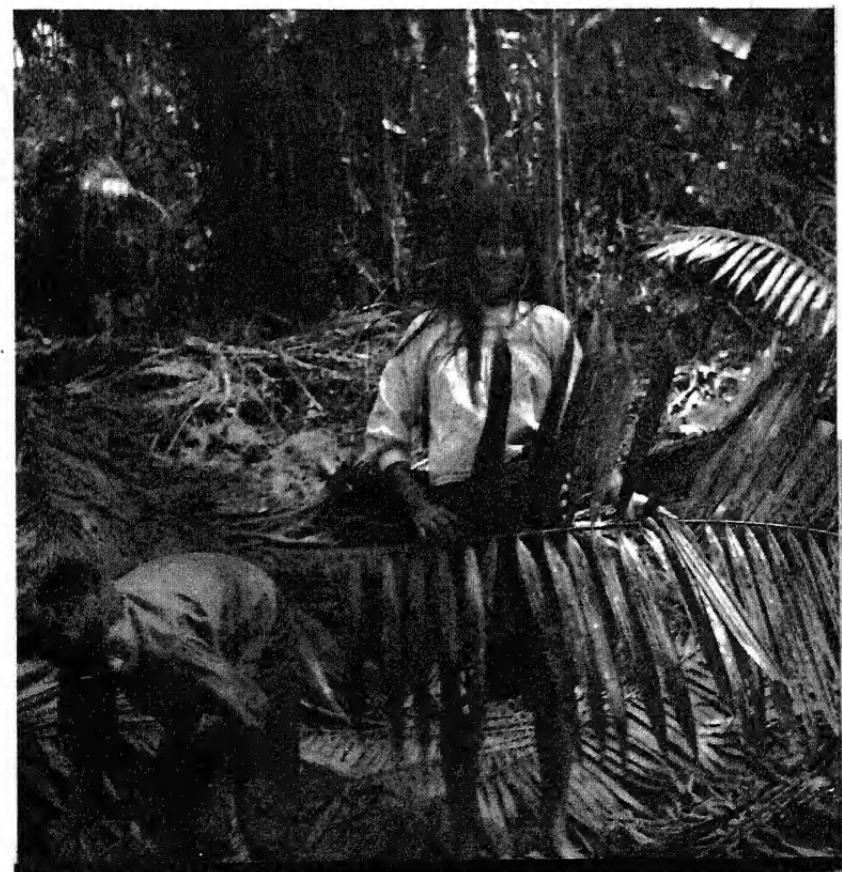
After I had made my words with him and he, as they say, had made his with me, I found that I had subsidized practically the entire village for the immediate construction of a large and comfortable camp.

Considering the number and size of the buildings, the base camp was comparatively the least costly part of the entire expedition. Calculated in money rather than in yards of cheap print cloth and unbleached muslin, the whole thing, from the clearing of the land to the finished houses, cost something under forty dollars.



Men, women, and children of all ages worked on the construction. Under the leadership of the curaca, whose dignity permitted him to do no actual work himself, they divided the labor much as the porters do in making a night camp along the trail. Some cleared the ground; others, when I had finally made clear to them what I wanted, laid out the sites of the actual buildings, sinking the foundation posts and erecting the bamboo and chonta framework. In the main, the women were occupied with scouring the surrounding jungle for building materials—poles, bamboo sections, leaves—and bringing them in to the campsite, either on their backs or in canoes. Much of the intricate weaving of the palm leaves for the several layers of thatching was done by the children.

Even the babies attended the construction. They were





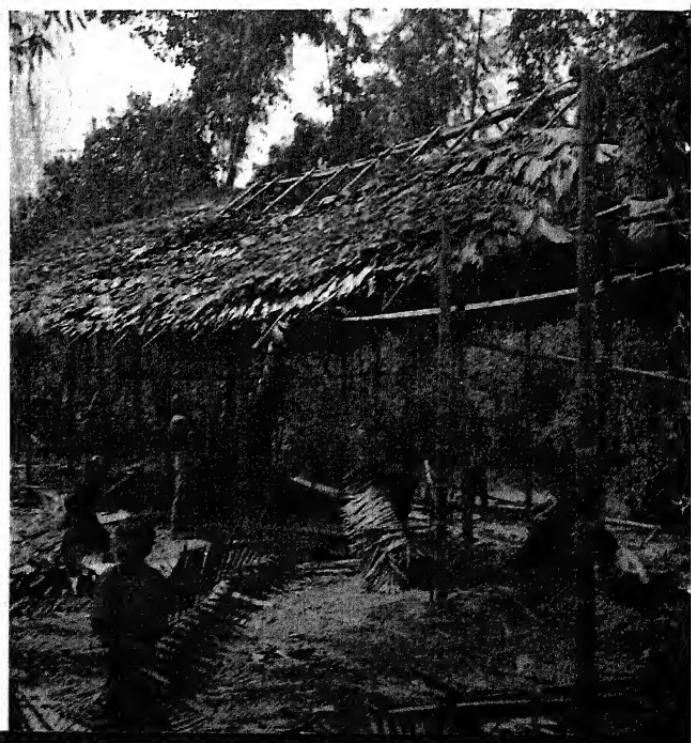
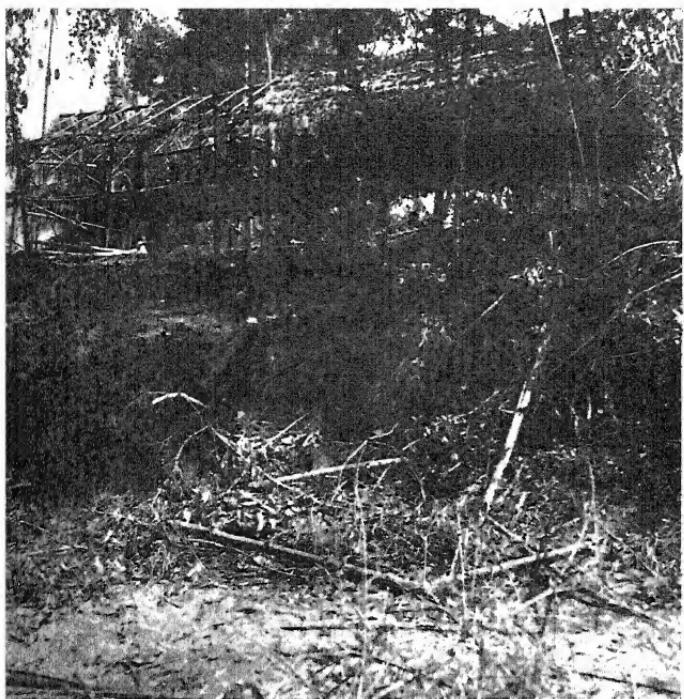
swung in small, dirty, fiber hammocks, shaded by palm leaves stuck in the ground beside them. Except at mealtimes (their group feeding seemed to coincide exactly with the adults' time for taking chicha) they received no attention from their mothers—who were busily weaving their palm leaves for our roof—other than an occasional resounding bare-skinned slap when one of them was unfortunate enough to get stung by an insect, and was un-Indianlike enough to cry about it.

Our camp buildings went up with amazing rapidity. After a sufficient number of painful explanations on my part of just what I wanted in the way of a place to live and work in, they were finally erected quite in accordance with the original specifications . . . based, paradoxically enough, on the degree of *impermanence* we thought necessary. When you contract for Indian construction work in the jungle you must carefully specify the length of time your castle-in-the-bush

will supposedly last, quite apart from any consideration of the actual size or type of building. This weird means of architectural computation is necessary owing to the devastating climate in the rain forests, and is the basis upon which is calculated the type and kind of building material—the kind of wood to be used in the foundation posts, the number of layers of roof thatching.

For example, a simple, overnight lean-to which your porters build for you on the trail is regarded as that and nothing more, although it will really remain in usable condition for two or three weeks. Other larger structures are planned out with something more of an eye to the future. They are called three-moon or six-moon or possibly two-rain-season houses, or even four-rain-season houses. As far as I know, a house thatched for four rain-seasons, and whose wall structures will last twice that period, is about as permanent a structure as any Indians, except certain of the Jivaros, ever contemplate building. In the instance of the camp, I contracted for what would be tantamount to a one-year house. I wanted to allow a reasonable margin of safety.





In exactly eight days after I had bedazzled the curaca with the trade goods, the base camp was ready for us to move into. In fact, our moving day had been anticipated by others. A family of large gray tarantulas, a handful of sauba ants, and a small scorpion or two had already moved in and pre-empted some of the choicest spots. The saubas even seemed impatient with us and our slowness in arranging the food cans for what was inevitably to be their benefit as well as ours. We managed to live in harmony with them all. There was nothing else to do . . . and each group, in avoiding the other, employed whatever strategy seemed best at the moments of encounter.

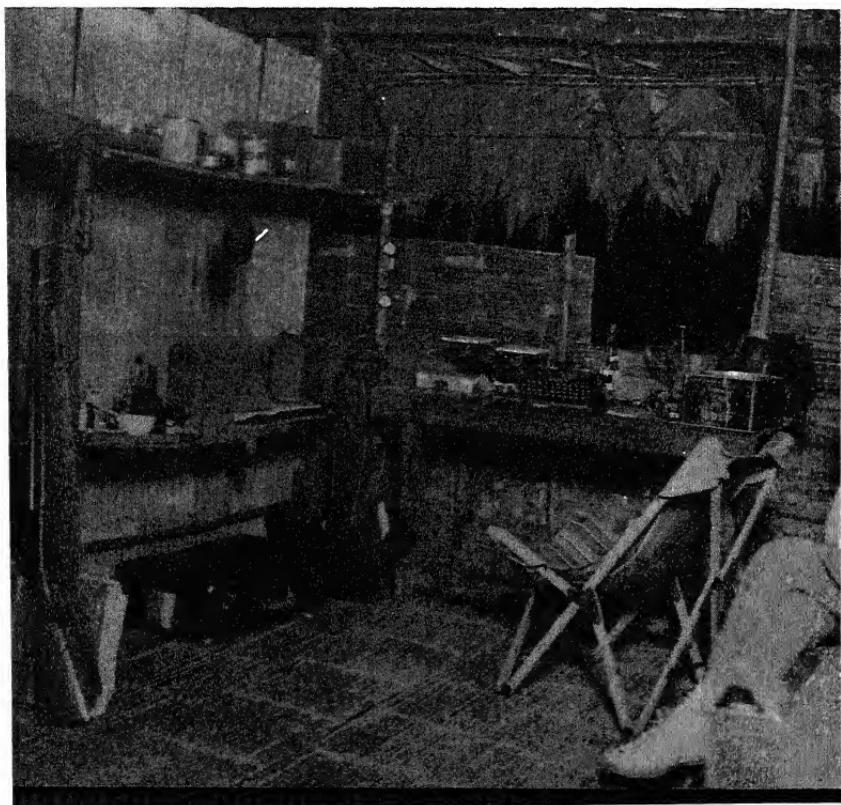
As finally finished, the camp buildings, the drying yard used on sunshiny days for botanical specimens, and all the rest of the rustic establishment took up about an acre of land. The buildings were roofed with a thick, protective thatch, partially walled with split bamboo—according to the prevailing dictates of climate, winds, privacy, and the idiosyncrasies of the personnel—and all of them had double floors of the same split bamboo, raised several feet above the ground.

At the slightest step these split-cane floors set up a series of peculiar, wavelike motions of their own throughout their whole area. After several months you become thoroughly conditioned to the slightly distressing movement and really notice it only when you step out onto the solid ground. By then you feel as if you were just coming ashore after a mildly rough sea trip.

The six buildings resembled some sort of hastily built jungle real estate subdivision. But they turned out to be well constructed, and we lived in them with all possible comfort for quite a few months. They included three small separate houses for the top field personnel, and three larger houses. These last were partitioned off from each other but covered by the same large roof of mottled-green thatching and joined

by a verandalike gallery which ran in front of all of them. When taken together, they formed a combination kitchen and specimen-drying space, a large living and dining hall, quarters for myself and the Niña, and—as complete as it was possible to make in the field—an office and laboratory which also served the purpose of a trading post and general cross-roads country store. Our front porch was so ample that fifteen or twenty Indians at a time could sit on it in grinning rows, facing the inside of the house and making appropriate comments while watching every possible movement of the white strangers.

An extra *casita* which entirely baffled the Indians—and nearly baffled me when I tried to explain its construction to them—was a rather lovely sylvan outhouse which commanded a fine and sweeping view of the river above the bend. Later on, to our wary distress, we discovered that it harbored a family of scorpions.

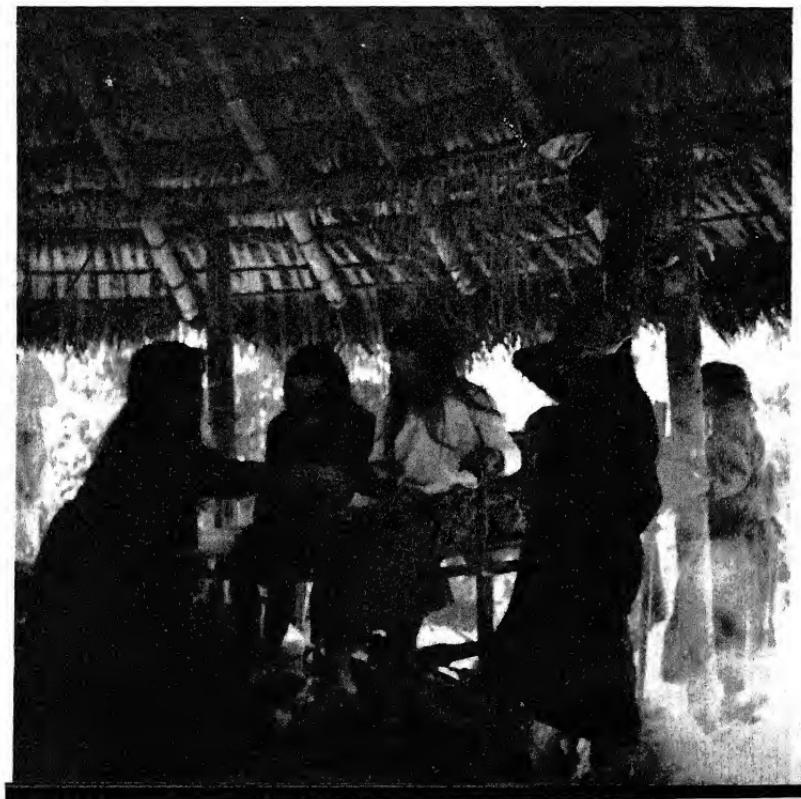




When we had moved in and settled ourselves the place became—as I had hoped it would—something of a three-ring circus for all the Indians in the entire region. Some of them traveled for several days, bringing their families with them, in order to leave a small gift of fruit—or possibly a pet animal or a feather artifact—for the white strangers. Then they sat smugly on the gallery, apparently feeling they had paid admission to gaze on us any hour of the day or night with that curious jungle mixture of mild amusement and primitive condescending pity for our complicated and cluttered lives.

Although we finally got them out of the habit of following us to the picturesque little building with the sweeping view of the river (by certain appeals to their heavy-handed and entirely scatalogic sense of humor), they were everywhere else . . . practically all the time. When there was no jungle business going on in the laboratory, and when trading was temporarily at a standstill, their attention was divided equally among the sleeping quarters, the kitchen, and what we fondly but vainly hoped would be a comparatively private bathing beach . . . since bathing was done there in the most literal way.

The kitchen, in some ways, upset them quite as much as it fascinated them. The women took a deep, if somewhat unreasoning, interest in those really rather simple accessories necessary to the production of adequate cooked food. But both sexes, as I have noticed Indians frequently do, evinced an obvious and parochial disgust with the white man's larder.



Our methods of cooking, our seasonings, and apparently above all, our addiction to a certain number of sweets, were almost sickening to them, being at so great a variance with their own culinary concoctions. Nevertheless, this did not prevent them from occasionally, and very annoyingly, trying to sample whatever was in reach, with their filthy fingers.

However, I managed to take a certain poetic and literally sweet revenge upon my jungle friends.

Indians are meticulous in their social customs . . . meticulous sometimes to the extent of becoming definitely hostile if you, as their guest, do not eat whatever food they might offer you. Above all, they become grossly insulted if you do not drink their chicha . . . that fermented brew whose alcoholic content is directly generated by means of saliva. So, when certain of the Indians got too annoyingly curious about the affairs of the kitchen, I had them served saucers of that food I knew they least liked and could least stomach . . . sliced bananas with sweet custard sauce. Then I beamed at them with what they assumed to be a touching display of white man's affection until, gagging toward the end, they had finished the last bit and had given me their grave, if nauseated, thanks as they walked unsteadily away across the heaving bamboo floor.

All those who had gone through the custard ritual carefully avoided the kitchen thereafter. Eventually—as long as the eggs held out—we were able to reduce our gallery of on-lookers in that part of the establishment to a minimum number of die-hards. These eventually came to like the custard, and I gave them up as incorrigible.

To get rid of unwelcome visitors in the bedroom, and the brown, humanly interested eyes which too frequently peered through the interstices of the bamboo partitions, was usually simply a matter of force. Fortunately for the Niña, the ladies of the jungle were more interested than the men in whatever

mysteries of dressing and undressing went on in there. Even so—or possibly on account of it—she occasionally had to struggle to preserve the few cosmetics she had arranged on the split-cane shelves and to keep intact those odds and ends of feminine accessories which seem to be part of things even beneath boots and breeches.

The bathing beach was still another matter, and a hopeless one, since there was no way of blocking off the entire river. What is ordinarily regarded as privacy was out of the question and came simply to be a fond dream of other times and places. When we were on the beach, the Indians left us no choice. Skilled in the jungle, they could creep noiselessly through the bush to whatever point of vantage seemed most strategic to them. After a while, whether or not we actually saw them, we came to feel always that one or more pairs of unsmiling but greatly interested eyes were gazing at us out of the underbrush on the shore. The Niña, especially, quickly came to have a Susannah-like feeling of being followed to the bath.

Being that rarest of all things on her trips—a white woman in the bush—the Niña has always had her share of slightly ribald misadventure. The women make sudden and determined efforts to take handfuls of her light hair, and test out her make-up by rubbing her face with their hands. They crowd closely around her to smell whatever perfume she might be wearing, and to feel the strange fabrics of which her clothing is made . . . as well as to feel her, to see if she corresponds with them in the more general anatomical details.

Once, because she wears boots and breeches like a white man (but fills them out in an unmasculine way), an elderly Indian couple, after a long debate as to what she really was, started smilingly to remove the breeches and see for themselves. By the time I got out of the camp and down to the

beach where the struggle was going on—she, barely holding her own, and calling for me between gasps of laughter—the aged couple were just on the point of winning.

I told them she was *huarmi*, but they were still somewhat unconvinced. If I was a man and wore trousers, they asked, how could a woman dress the same way? Nothing like that had ever happened in *their* village.

"Do all your women in your land dress that way?" they asked. I told them no, only when they are in the selva, the jungle.

"But," answered the woman, "I live always in the selva . . . and I *never* wear man's clothes. Why should she?"

As the Niña herself put it afterward, between the bathing and the curious women she was always having to do a sort of jungle strip tease . . . where the audience was already stripped.

While camp was being got ready, I had laid out with Don Manuel the campaign for field work. By the time we had finally moved in, the field laboratory was carefully set up and prepared not only for taking care of incoming botanical and drug samples, but also for fine weighing and the physiologic field testing of batches of curare and other drugs. The evolution of animal protocols was based on the reactions not only of those few laboratory animals we had been able to take in with us, but also on certain animals used by the Indians themselves to establish a primitive lethal standardization for curare . . . frogs, a kind of jungle grouse, toucans, and domestic hens.

For that part of the work more or less far removed from the base camp itself, I arranged for a series of radial trips into those contiguous river valleys which were within possible striking distance, and were—in one or more of their aspects—a part of the zone. Similar trips, but with a some-

what different purpose, were arranged for quantitative "cruising" of the entire territory for future production possibilities. That is, their definite object was to ascertain as far as possible the amount of raw material available.

Another important feature of the establishment was a glorified jungle edition of a five-and-ten. Its garish stock ranged from pins, needles, and thread to bolts of cloth, simple agricultural tools, and all the rest of the miscellaneous necessities for wilderness barter. Adequate and representative packs of trade goods were also made up for taking out on radial survey trips.

This whole "general store" was for the payment of the Indians who worked in various capacities for the expedition: canoemen, porters, runners, food gatherers, and, most important of all, the men, women, and witch doctors who would, we hoped, prepare jungle drugs for us according to the ancient lore.

Naturally, as in every other place in the world, this undue and exceedingly vulgar display of wealth brought its own trials and tribulations. For one thing, the Niña and I were in constant demand as godparents for every Indian baby born during the time we were there, or who had been born during the year or so just past.

Being a godparent in the jungle is quite simple, and really means only that you have to make a present to the child's parents in return for the dubious honor thrust upon you. But even at that, the proud parents usually load you down with fruit, or a freshly killed animal, in exchange. Furthermore, since you are then more or less a member of their clan, the entire family feels obligated to trade with you. I am certain a dozen or more fat-tummied brown babies whose godparent I came to be on that particular trip were worth their combined weight in additional specimens.



Another trial occasioned by the trade goods (even apart from the inevitable daylong haggling) was the patient, time-destroying waiting during the heart-rending periods of indecision on the part of the Indians, when they were confronted by a choice of several desired objects. Sometimes a painted warrior would sit for hours in grim meditation trying to decide whether he wanted a machete or several yards of cloth, or—probably thinking of the little woman back in the jungle—whether he shouldn't go home with a glittering string of beads instead.

One incident of the forest bargain counter impressed me particularly.

One afternoon a weeping Indian woman, who looked as

homely and matronly as only an Indian woman can, squatted down in the door of the combined laboratory, office and store and overlaid her torrent of tears with a high-pitched cackling outburst of rapid Quechua. Her spate of jungle words was far too swift for me to follow, and it wasn't until an hour later, with Manuel's aid, that I made out what it was all about. The story was an ageless one and might have happened on Madison Avenue as well as in our camp.

It seems that her husband (I remembered the man and his curious selection of trade goods) had always chosen, in return for his work, articles for women: beads, jewelry, thread, and the like. The trouble was, as she explained between sobs, that he had given them all to another woman, a jungle glamour girl whom he was even then visiting at the other end of the village . . . his arms full of our trade goods and probably of her.

And, his legal-by-ritual mate went on, it wasn't right. She had always been a good woman to him. She had skinned the animals he had killed, borne him men-children (one of which, about three years old, was at her copious breast at the moment), and chewed him all the chicha any man could desire.

Indeed, and she suddenly brightened at the thought, there was only *one* way of preserving peace around her household fire. Wouldn't the white strangers, because she was *such* a good woman, immediately visit Cecilia—her successful rival—and demand the return of the worth-while wages of sin?

The white strangers, frantically thinking of Solomon, Lycurgus, and Justinian, made their words with her in the form of an effective compromise. They could not, they said, interrupt the current of affairs in the menage of the fair Cecilia, but they could—and immediately did—give her an equivalent amount of curi-muyu and bright thread.

Then, she asked, in the future (which she would other-



wise darken with her tuneless threnody of outraged virtue) wouldn't the white strangers promise to see to it that her husband chose only those things which his own poverty-stricken family needed? The white strangers gladly and quickly promised.

They were careful what articles the erring—if unrepentant—husband chose the next time. They even gave him some

sound tactical advice. It was entirely hypocritical, though. The white strangers could still hear the sound of his woman's voice. . . .

The rest of the initial campaign for the collection of the jungle drugs—and not the least part of it—was the re-establishment among the Indians, as rapidly as possible, not only of the necessary witch-doctor connections but of my own status as an erstwhile brujo. That was the next and most difficult step. During my absence of several years—and, where life and death often follow each other with such rapidity, that is a long time—many of the Old Ones whom I had known had been killed off in the various ways that Old Ones die in the bush. The young men who were left might be more difficult to deal with. They might be less predictable . . . less conventional in the fixed routine of the jungle.

So, when the lush stage was finally set for the work, I felt that the rest was up to the stolidly noncommittal Indians. I wondered if they would respond. I wondered if they would bring in the materials I needed, make the curare with me, and show me what I had come so far to see . . . those last secrets of the weird, mystery-laden pharmacopoeia of the Amazon.

Chapter Twenty

The Black Magic*

T

he first few days were patience-torn with anxious waiting—the crawlingly slow moves of jungle barter-diplomacy, furtive intrigues with certain Old Ones, unsmiling fireside chats with others. For a while the Indians of the whole region were unusually impassive and wooden. Men, women, and children were unresponsive even when they looked with cool longing at the cases of trade goods.

They were making up their careful minds about me and about my coming among them again. Above all they seemed to be trying to rationalize, to themselves, my strange, gauche requests for the most profound secrets of their witchcraft pharmacopoeia.

Before they could ever go ahead with the work I wanted they would have to evolve their own meaning out of my requests, and then primitively, timidly, slowly, adjust that meaning to allay all their instincts which rebelled against me and the things I wanted from them. Only when they had

* Technical listings of both the botanicals and the extractives, and the correlation of field, laboratory, and clinical findings, will continue to be published in article form, in appropriate media, as the various aspects of investigational research are completed by those specialists who have been kind enough and interested enough to carry on with the work.

done that, I knew, would they work for me in what, to them, was the magic which controlled their lives.

They had to feel safe and assured before they would make that vital kind of investment in me and in *my* magic. And even when they came again to feel that security in me, they were still wary and not—for a long time—so generous with their information as I wanted them to be.

They remind me of other men—not jungle men—who are forced to face an investment and investigate its potentialities, for good or bad, and the background and motivations of the one who presents it. They also are thinking out the ancient lore, handed down to them by their fathers, and are wary in it.

Finally—and the idea seemed to creep through the bush like smoke before a rain comes, and be every place at once—the whole village turned to and helped. Even the Indians who lived in the more remote parts of the region visited me and offered me their knowledge and their skill. The radial trips were planned with them, according to where they lived in the adjoining valleys and ridges, and based on the information they brought me.

Specimens began to come in from every possible source, and life was suddenly almost unhandily and embarrassingly full of the very things we had come for. The days streaked by like frightened parrots. They started and were gone in a hazy flurry of side trips; arranging collections; drying and pressing the botanicals; preserving the extractives by bottling, canning, and trying to prevent fermentation; running animal tests and recording the data; trading and haggling; being first an irritating, kibitzerish spectator in the actual preparation of the drugs . . . and then an unorthodox, not deft, apprentice-in-witchcraft. It was the only way in which I could form a basis of knowledge so factual that out of it I could then evolve my own methods of extraction procedure.



My jungle datebook must have resembled that of the Deb-utante of the Year. Every hour was taken up with short or long excursions, field-office periods, note and journal recordings, the tediousness of photography in heat and dampness, and the attempts to be in several places at once . . . when more than one Indian was preparing curare at the same time and being secretive about it, and other Indians were preparing other drugs. There was even the necessity of being formally social at times. Visits of ceremony had to be made and deep-gagging sips of chicha had to be swallowed and appreciation expressed. An occasional night dance had to be attended. I liked it all and wished for more hours and more days.

It was like being the only customer in a combination drug-store and manufacturing pharmacal firm, covering many square miles and being waited on, simultaneously, by a whole corps of primitively serious clerks. There was so much service, of all kinds, concentrated on my wants, once the Indians had fully decided to help me, that I was occasionally at a frantic loss to take care of everything.

There is no way of describing the minutiae of those several months in any order of strict chronology. That would be kaleidoscopic and confusing. In any event, the results are the important things . . . much more so than the petty daily misadventures and the minor, nonsequitur bits of bush drama which were only part of them. And since those results, the objectives of the trip, were the drugs themselves, it seems better to speak of them, and the happenings which produced them, rather than any single aspect of the trip as a thing in itself.

We were able to investigate, and bring back, approximately seventy-five botanicals from which—either singly or in groups—various drug preparations are made by the Indians. There are, as far as I know, several times that number

which we were unable to investigate for sheer lack of time and other resources. It would take years . . .

Apart from the preparations already mentioned, an inventory of the jungle drugstore would range from primitive malaria prophylactics and remedies for the many intestinal disorders of the jungle on up through cosmetics and dermatologic remedies to those preparations which are the most completely surrounded by the rituals of witch lore: narcotics, contraceptives, abortifacients, potions connected with the various stages of birth, and—of course—curare.

Whether or not the Amazonian Indians are superlatively healthy and physically perfect as measured by our own standards (and they most decidedly are not, owing to the absence of even the most fundamental hygiene, unspeakably bad dietary routine, and a complete lack of knowledge of infection and contagion), they do nonetheless cover almost the entire range of human ills with their wilderness remedies. Some of these, as has been said before, are merely jungle superstitions and the hocus-pocus of brujería; others are based on powerful psychiatric suggestion; still others we should class as out-and-out physiotherapy . . . much of which is skillfully and intelligently performed. And in addition there are enough bona fide drug preparations to keep an army of field investigators busy for life.

Take for example only a few of the remedies with which they directly attack the every-day ills of the digestive tract from entrance to exit. They start in with the mouth itself, by chewing almost continuously throughout their lives the leaves and berries of the sindi-muyu (literally, fire-seed) plant to preserve their teeth. Toothaches are rare among them . . . whether or not the fire-seed preparation should get the credit. They also have some interestingly effective oral treatments for gingivitis, pyorrhea, and similar conditions.

They employ gargles and inhalants for the throat; and, progressing farther along the well-known and often abused tract, a surprising number of emetics, stomachics, carminatives, and anodynes for gastric pains are employed. The value of several enzymic digestants, and assimilatory aids, is recognized by them, though it is only a comparatively recent procedure with us. The leche de oje which has already been mentioned is one of these.

Still farther along, they employ adequate vermifuges and also a varying number of laxatives and cathartics arranged, in jungle pharmacal lore, according to potency and even, at times, violence. Indeed, these surprising primitives are aware of—and make use of—the principle of the enema for which they have two or more standard preparations. The jungle method of administration is by means of the long, tapering leaf-stems of the papaya tree, which unfortunately are inflexible and rigidly hard when cut and sun-cured for the purpose. I have always thought that was one of the major mechanical drawbacks of the jungle pharmacopoeia.

While the Amazon dwellers have no remedies for the ravages of the spirochete type of organism, endemic in various forms among South American Indians since pre-Columbian times, they have evolved a treatment for infections caused by the gonococcus. The development of this preparation was, apparently, comparatively recent among them and was probably made necessary by the advent of the white man. Like most primitive medicines, it is a vegetable infusion and is taken orally in what we should term massive doses. This particular remedy seems to have originated in the eastern sub-Andes. In addition to my own investigations, it has recently undergone preliminary, and I understand successful, research by medical officers attached to both Ecuadorian and Peruvian armies.

Another jungle drug about which I had previously known,

and was now able to authenticate, is—next to curare—one of the most interesting of them all. It is an oral contraceptive—either a medicosociologic ideal or a bugaboo, depending upon your point of view. Either way, its field investigation was fascinating, at times entertaining, and always—because of the mystery surrounding it—extremely difficult.

At the present time this preparation is under laboratory investigation by competent authorities who have at their disposal the complete botanical background, extractives, and an adequate supply of raw materials with which to work out more efficient extractive techniques.

The wilderness background of the contraceptive is particularly interesting because it is one of the few jungle drugs whose clinical effectiveness we have been able to check with reasonable accuracy in the field itself, by means of control groups among the actual users. The ferreting out of its secrets presented unusual obstacles, for its manufacture and use is not only shrouded by the veils of witchcraft and superstitious ritual, but is part of the one aspect of primitive people which is even harder to penetrate than the black magic of the witch doctors. It is a "woman-thing."



A woman-thing is always difficult and sometimes even dangerous to investigate. The only one of the expedition's original objectives which was not carried through to full completion, for example, was the matter of the depilating preparation. That was because it is also a woman-thing. The preliminary difficulties I encountered with it made me remember all over again that it is easier to investigate the jungle-bound black magic of a score of grim, painted witchmen than it is to find out what weird preparations are made and used in the women's quarters of any clanhouse.

The unraveling of the contraceptive problem presented, in its smaller way, even more hurdles than the authenticating of the curare. I was unable to get the information I needed about it until the very end of the trip when I had almost given up hope. But, omitting all the tedious details of the strategy involved, the complete botanicals employed in it were finally added to the collection and the methods of its preparation and use were at last made clear.

In almost every one of the large clans there are, as a rule, two, or possibly three, younger women who have—for some reason—stepped beyond the pale of tribal morals and consequently have never achieved the equivalent of marriage . . . not, as a rule, for any lack of personal beauty (rather because of it!) but almost invariably for some transgression of primitive ritual. These bachelor girls of the great forests are, however, condoned by that same ritual in a considerable amount of promiscuity with both their own tribesmen and the occasional wandering traders and soldiery who penetrate the region.

It is a noticeable phenomenon, though, that they never conceive. When asked why that is so (the brutal conversational frankness of the Indian is sometimes of great aid in investigational work) the answer is always the same: "*Jau!* . . . the Old One So-and-so, or [sometimes] the ancient

grandmother So-and-so, gives us something to drink early in the morning, before we have eaten and at certain times. No, it is the truth that drinking this there are no hua-huas. . . .”

It might reasonably be argued that, among this group of not terribly glamorous ladies of the jungle's back streets, some might in any event be barren. But this is where the Indians themselves furnish us with a definite control group . . . as precise a control as one could well hope for in any field of primitive investigation.

It is this: among the tribal groups of the region in which I worked, a woman who is married does not have to undergo more than ten pregnancies during the course of her prolific career. That, of course, does not mean ten *living* children . . . infant mortality being what it is in the jungle. Somehow this seems to be quite a sociological advance over our own legal inconsistencies in matters of birth control.

As might be suspected, the great majority of the jungle matrons gladly—and it might be imagined with that feeling of virtue which comes with having earned an honorable retirement—avail themselves of this custom. When they do, as far as can be ascertained, any exceptional pregnancies are voluntary with them. That is what I mean by perfect control groups, for surely it cannot be argued that any member of group number two was ever sterile. . . .

During its whole course, all the field work seemed to be overlaid by a dark, swiftly moving current of magic and wilderness mystery, for we dealt only in those things which in the jungle are the essence of magic themselves, and are the most closely guarded. As time went on, the people with whom I worked, and especially the brujos (some of them quite young since so many of the Old Ones had died), came little by little to regard me as one of them . . . only slightly different and with a curious, rather useless, magic of my own.

They have always been kind and patient with me, and now, bit by bit, slowly and warily, they became more and more helpful, and taught me nearly all that I wanted to learn. But even after I earned again the right to be called *jatun rucu* by them, the deep differences between the magics of the red man and the white never quite vanished. They never could. . . .

Jungle magic was at its height in the making of curare . . . the flying death. It took time and unending strategy to convince its makers that I already knew something of its magic and was among them in friendship and with gifts to learn the rest.

Curare making in the Amazon is a job for men only and, at that, only for those men who have inherited the lore of *brujería*. They are the most reluctant to treat with, the most rigidly conventional, and owing to their jungle prestige, the most difficult to influence with any display of trade goods.

Although I finally was able to evolve my own technique of producing an adequate curare unadulterated by superstition and the extraneous ingredients—either too toxic or else inert—demanded by that same superstition, I could not do it with the witchmen. In the end, while they taught me all that they themselves knew, I found that it was impossible to persuade them to break away from their own rituals of procedure and help me plan what was to them (and was, of course, to me also) a brand-new and startling means of making the arrow poison. That part of it I had to do later on and alone.

But if you are an Indian, and believe the things an Indian does and think the way an Indian thinks, then the making of a batch of curare is a difficult and an awesome task. To begin with, it takes four or five or six hard days in the jungle to gather your materials and to prepare them. Certain roots are gathered; and certain of the long trailing lianas, or tree

vines, are sought for with patience and cunning instinct, so that they may be pulled down from the trees and cut into sections short enough for the curare pots. Certain plants are hunted and their bark removed, since only that part of them is used.*

Meanwhile, you have selected a spot for making the flying death far out in the jungle, hidden away from the rest of your people, for that is custom. It is there you store your ingredients as you find them, and it is there you put the especially made clay pots and lay in a supply of firewood which will keep your curare boiling continuously for several days. You must do all that away from your clanhouse and your people. You know that if you made the curare under your own roof all your household would be weakened and made ill by its magic, just as you know that the people of your household would have a weakening effect on the drug.

At last everything is ready in your jungle retreat so that, undisturbed, you can go through the ritual of making the flying death . . . and steep yourself in the ultimate of jungle magic.

You have built a lean-to, for you will continue your vigil as a poison maker alone and away from the world for several days. During that time you cannot be with or even—it is better—see your wife; and in your retreat you are happy in the knowledge that the one thing in all the jungle which would most weaken your poison cannot happen: no pregnant woman will come within sight of your pots of boiling poison. If that should happen, you might as well throw the stuff

It should be remembered that the particular primitive technique of making curare described here applies only to one (although extensive) region of northern South America. Curare making differs primitively, in both technique and ingredients, throughout the great Amazon country and even in the Orinoco valley, where it is also made. The method I have described here is important, because after considerable study and observation I decided to employ it as the basis out of which to evolve a curare adequate from a modern clinical point of view.

away, for you know, as your fathers before you have known, that it would be weak and useless and would not harm the smallest bird that flies in the jungle.

Also, for a day or so before you are actually ready to make curare, you have taken no salt or chicha or any *aji*, the violently hot little pepper of which you are so fond at other times. Sometimes you have not even taken anything containing sugar during that period, though usually—in this region—during the actual making of the poison you are permitted to chew sugar cane for nourishment.

On the very last day before you actually begin to make the deadly stuff you eat nothing at all. All that—the fasting and the keeping away from your woman and your house—you call the “sacrifice,” and you are proud of having made it. After it is all over you tell your friends that you have been a man . . . and that you make very good poison indeed.

Early in the morning of the day you fast, you make the final preparations. The one or more large clay jars with the pointed bottoms—the ones you use only for curare making and which gather strength the more times they are used—are carefully balanced on the unlit fires made only from three large sticks. The smaller, traditionally bowl-shaped pot for the final thickening of the curare is carefully inspected. It is very old, and has thickened many batches of curare for you. You feel it is full of magic, and that it is a part of all the other jungle magic.

After that, you check over the large vine-tied bundles of the mysterious ingredients with which you are about to work: the roots and bark scrapings, and the long twisted sections of tree vines. You name them over to yourself carefully, to see if you have missed anything. The names given them in the ancient lore slip easily through your mind, as you look at them: the stick-which-catches-fire; the toucan-



tongue; the thick-gold-stick; the vine-which-is-like-a-frog; the magic-stick-that-grows-beside-big-waters; the black-poison-stick; and the stick-which-is-like-a-boa. Sometimes there are other ingredients—roots from the plant-which-talks-in-the-wind, for example. Usually there are not. But always, since you are of this region, you use at least these which you now have before you.

Patiently you work with the magic plants. After they have been thoroughly cleaned, they must all be shredded as fine as possible, so that in their cooking you may extract the last particle of their magic strength and power. To do this, you beat them for hours over and over again, a bit at a time, on a large flat rock, and are careful to use only a wooden cudgel so that you will not lose a single splinter or a single drop of their potent juices.

When you are sure that everything is ready you may take a long bitter swallow of the juice of the soul-vine. Then you

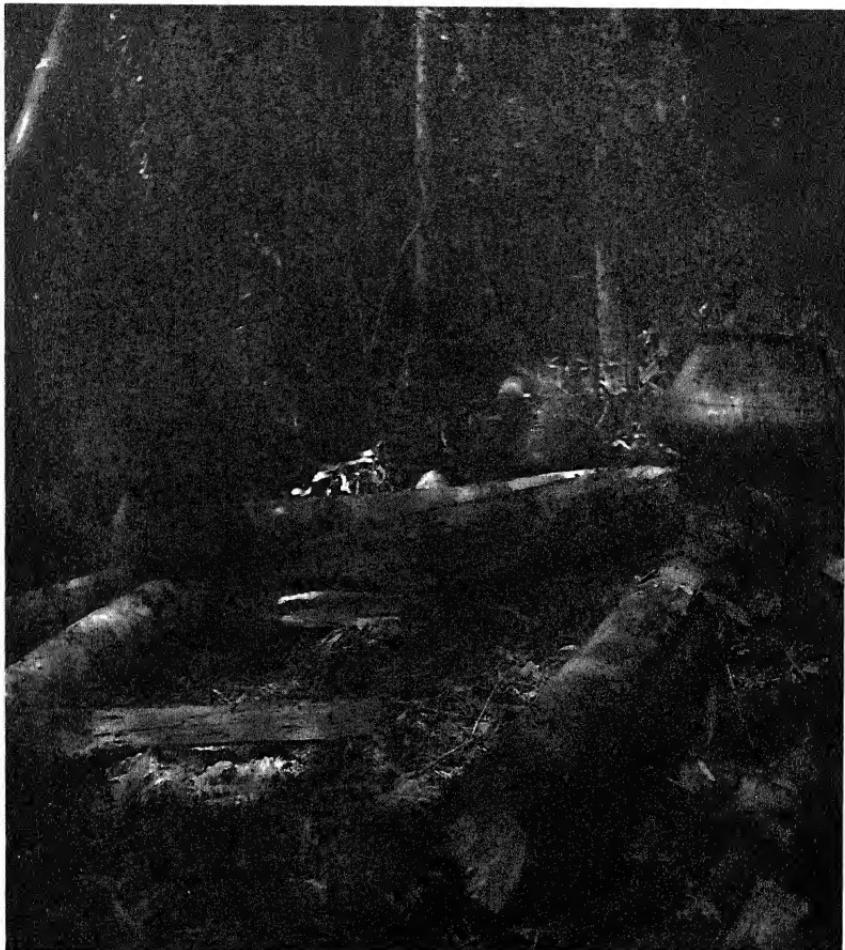
go into your lean-to to sleep with your hunger, and dream strange dreams about the magic of curare, and the mighty hunting you will do with this that you are about to make.

Early the next morning, while the mists are still on the jungle and before Inti has made you warm, you quickly rinse your hunger-tasting mouth with the acrid *guayusa* and swallow a mouthful of some food which has no salt and chew a bit of sugar cane. By then you are ready for the actual making.

While your fires are burning up bravely against the dampness of the dawn mists, you turn your attention to your shaped-by-magic ollas, or, as you would probably call them, your *jambi-mangacuna*, your huge clay pots with the pointed bottoms, in which your deadly brew will simmer for the next two days. By that time you will be ready to bring it to its final state in the small, open casserole-sort of cooking vessel. This, until you need it, you keep carefully covered with a piece of bark cloth so that its magic will not escape.

Your brittle clay ollas are very old, and have been used—fragile and unwieldy as they are—many times before in the making of curare. They are veterans, and, being veterans, are better able to resist the spirits of the foaming black magic which will shortly be in them. When they are new and untried, you know they are weak in spirit, and are likely, mysteriously as those things happen, to break without warning when they are on the fire, and let the result of your hard-worked witchcraft run out on the jungle floor in a thick, dark-brown pool. You handle them carefully, for you respect them as you would respect any jungle comrade. . . .

When you are ready, you rub them quickly and thoroughly with handfuls of *cuilin* leaf, which gives them a smooth watertight coating on the inside. The *cuilin* leaf itself is not a magic plant. At other times, your woman has used it to line the inside of her cooking and chicha pots.



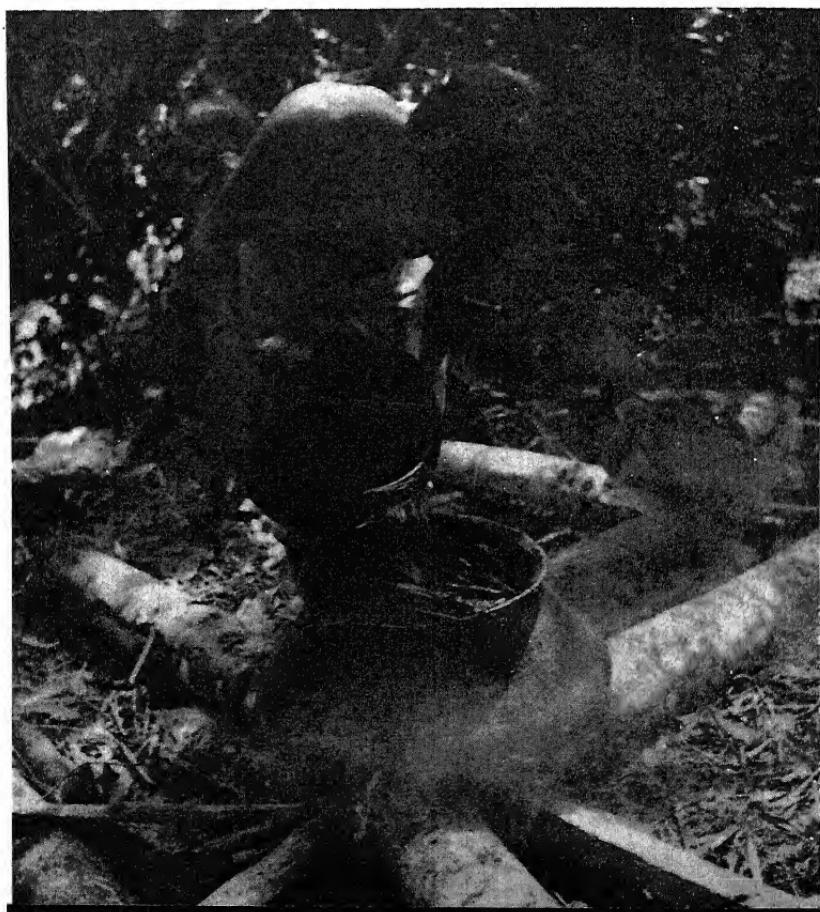
Then immediately, while the black juices of the cuilin are still wet on the inside of your ollas, you place the great pots (you are probably starting off with three) on the fires. When they are hot enough, the coating of cuilin juices will be as hard and shiny as thin black lacquer. After they have been on the fires awhile, you spit carefully into the hollow cone of their bottoms. If the slight crackle you hear above the sound of the fire seems right to your sensitive ears, you hastily throw about a quart of water into each pot to hold them at just that heat.

Quickly, then, you go from fire to fire and distribute arm-

loads of your pounded ingredients—the roots, the bark, the long gnarled liana sections—among your ollas until you have no more left to put in them.

You have been careful, in the filling of your pots, to wave certain bits of the flying death plants three times around your head before you put them in with the rest. Just why you do that you have never known. It is part of the ancient lore, and even your father, the aged twisted Old One, could not tell you why it was necessary. It is just that you must do it, and you know that it is better that way.

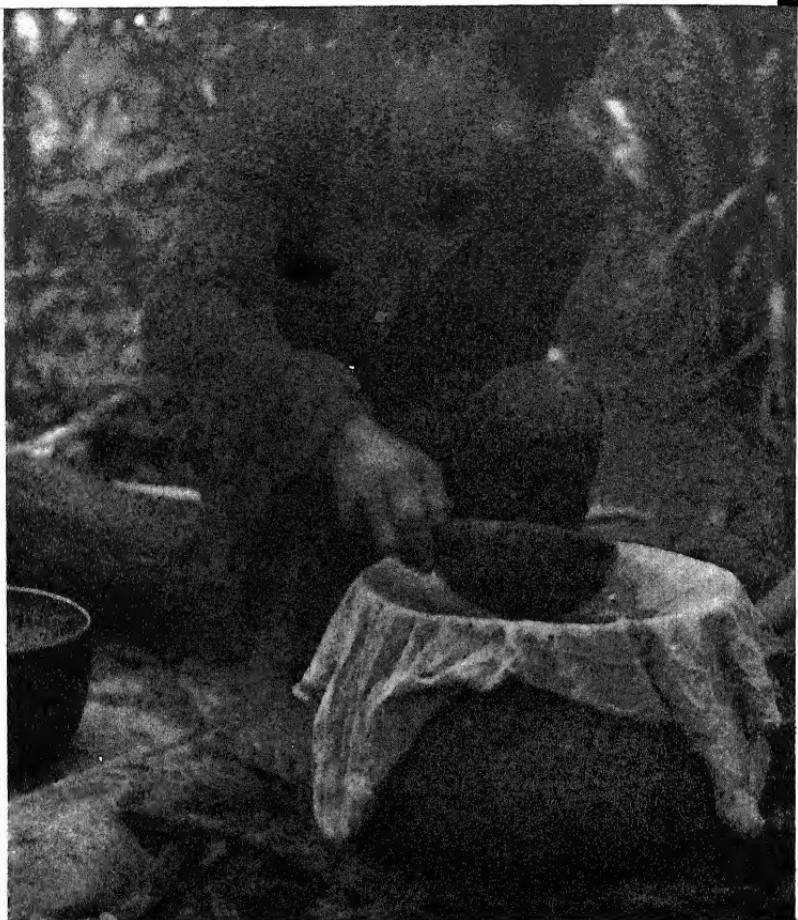
Now that you have arranged your dry ingredients, as you have always been taught, you put five or more gallons of water in each great, open-mouthed pot so that it is completely filled.



Then for two long days and nights you tend your fires so that the stuff you are cooking will simmer correctly. When it is not raining, and your fires are not covered with their individual canopies of great leaves, you lie beside them—constantly awake and watchful—and think of the things a man should: the meat you will kill with the poison you are making; the stealthy walking along hidden game trails; the poisoned dart in the blowgun; your lean, root-hard body held in patient readiness for the shot; the eating of much food again . . . and your woman to prepare it for you . . . and then your woman . . .

And when it is raining, you squat in sodden stolidness under your lean-to, with the water streaming out of your ash-streaked matted hair and over your suddenly shivering body, and hope that soon Inti will return and help you with your fires. And even as you hope for Inti, the good sun, you hope that Supay, who is evil, will not take it into his mind to make your poison weak and like a woman-thing. You hope that for your days of labor and your sacrifice you will get a pound of fine strong curare out of the many gallons which are boiling in front of you.

By late afternoon of the second day, when the shadows—dark as the brown-black stuff you have been boiling for so long—fall slanting across your ollas and across your hands, which have become tired from fanning the fires with a feather fan, you see that it is time for another step. By now the good jungle strength has been extracted from your ingredients. So, being very careful not to inhale their magic, you fish them, hot and steaming, out of the pots and throw them away in the bush, covering them well with leaves so that others will not see them. After that, the amount of liquid remaining is so small that, strained two or three times through a piece of hand-beaten bark cloth, it can all be put in one pot.



Arranging the single, pointed-bottomed olla on a fresh fire directly in front of your lean-to, for another night you squat sleepless beside it, fanning it and tending it. And as you chew your bit of sugar cane and wolf down a meager handful of unsalted yucca, you look out past the small fire into the greatness of the night. The loneliness of your vigil and the emptiness of your hunger bring before you the spirits of the Beings of the ancient lore which you have heard at so many night-fires. Somehow you confuse them with the sounds the jungle makes at night.

When the mist-broken light of the third day filters down

to where you are squatting on the floor of the jungle, you see that the amount of liquid in the olla is now about one syrupy, foam-covered gallon. The foam is a dirty amber in color, and as thick as beaten white of egg. When you see it, you say "Yah . . . !" to yourself with satisfaction, for it is a sign that the poison will be good. Also, it is important to you at the moment, for with it you make the first real test of your jambi.

Carefully you skim it off with half of a sun-hardened gourd which has holes in its bottom so that the liquid will run out and the foam will remain. When you have collected the foam and placed it in another small gourd, you dip half a dozen blowgun darts in it, and then hastily dry their poisoned points before the fire.

After that, and after you have arranged your fire so it will burn evenly for at least an hour, you take your blowgun, and the freshly coated darts, and slip off into the jungle to see if the magic of your jambi will be good, or if it will be a weak thing and shame you when you return to the house of your family.

In all the ancient lore which has come down to you by word of mouth from so many fathers of fathers, there has never been anything about white-tiled laboratories, and un-deviatingly accurate toxicity tests, and the careful computation of animal protocols resulting from those tests. You have your own jungle-rigid means of proving that your poison is strong and deadly, that, when it is made and you have coated many arrows with it, it will kill for you with a sureness which may save your own life.

The lore of the poison tells you there are only three animals on which you may try it . . . that you may try only its foam before the jambi itself is completed . . . and that the trial must be made on the first one of the three animals you see during your hour's walk away from the fire.

Possibly you may see, and succeed in catching, a large water toad. That is one of the animals. If you do, you will hold him in one hand, and force deeply into the delicate white underskin of a hind leg the poisoned tip of one of your darts. Then you will put him on the ground and prod him so that he will jump, and your eyes will glitter with the hope that your work has been good. The toad must collapse, completely paralyzed, within six to eight jumps. You count them carefully, "Shuc . . . ishcai . . . quimsa . . . chuscu . . . pichca . . . sucta! YAH! YAH . . .!"

Or—and you would rather have it happen this way—when you walk through the bush you suddenly see, high up in the branches ahead of you, a large toucan or, darting behind the long extended roots of a tree, you see a *pavo del monte* (a grouselike bird). In either event, you and your long tapering blowgun are suddenly no more than a noiseless jungle shadow, as you glide as close as possible to the bird you have seen. Then, in complete silence, you blow your dart and watch again to see if your magic has been good. If the bird, feeling the prick of the small dart, flies at once a few feet to the branch of another tree, and—even as it is alighting on the branch—quivers and falls, your curare is strong and is a man-poison.

You return to your fire contented with the flying death you are making, and refreshed with having hunted and killed. Before night comes again you will have finished and, carrying your jambi-mangacuna and your new curare, you will return to your house and to your woman.

When there is no more foam and the thick molasseslike liquid has been reduced to less than two quarts, you transfer it to the small olla, which you have unwrapped and prepared. All through the middle of the day you sit beside the small cooking pot, impatient and restless, but more careful with your fire than you have been at any time before.



While the hot black stuff is simmering down to about the volume of a pint, it must not be allowed to scorch. Guarding your hand with a thick green leaf, you anxiously remove individual embers from the fire or, if you think best, shove them closer to the pot and blow gently on them. It is your only means of temperature control in the most delicate and nerve-racking procedure in all the jungle . . . and the most exacting work which you, a jungle man, will ever have to do.

But you have been careful and precise, and your magic has been good. As the afternoon wears on, and the poison in the jar looks more than ever like melted pitch, you commence to touch its surface with the tip of a blowgun arrow. Suddenly, one of the times you touch it, a long, sticky black thread rises up behind the arrow's tip. It has come to its "point."

Quickly you lift the little jar from the fire and, before it has time to cool and harden, you pour the thick black syrup into a gourd or a long thin tube of bamboo. If you intend to trade it with others who do not know the secret of making it, you may divide it among several small clay pots, each of which holds about three ounces. As soon as it has



congealed, you carefully cover the mouth of the container with a bit of leaf which you size down with a thread of *pita* fiber.

You have finished. The sacrifice has been good, and the jambi is good. It is the flying death, and it will kill much meat for you and your family or, if you trade—it is valuable among those Indians who do not make it—it will bring you much flake gold or animal skins or whatever it is you feel at the time you and your people most need. You carry it home with pride through the bush to the place where your yucca is planted, and where your house is, and where your woman is waiting for you. . . .

Even at first, before I was able to evolve my own curare procedure, and while I was still an apprentice-disciple of more than one witchman in my zone, certain black magic

obstacles sprang up. They seem incredible now, as I write this, just as the things of the jungle always seem incredible when I am away from them. But when I am in the jungle, and see things happen almost every day which are hard to explain, I try to be wise in the ways the brujos are wise, and not question them too closely . . . to accept them as those things which must be when you deal in magic and the products of magic.

It was only a series of coincidences, I know, which caused all the still pictures I took of the making of curare to turn out less well than the hundreds of other pictures I made on the trip. It still seems odd that the witchmen who did not want the glass evil-eyes of my cameras turned upon them in their labors were able to tell me in advance that the images I wished to make of them would not be good images in the way that I, their white brother, wanted them to be good. They told me that no matter where I stood, the smoke from the curare fires would seem, in my images, to be blowing across the camera's eye . . . even against the wind. One of



them told me that when I finished making my image I should not see his body, but only a black shadow. He—and the others—were right. I made my pictures of modern jungle witchcraft, but not one of them is as good as all the rest of the jungle pictures.

Once, while I was taking motion pictures of a witch doctor squatting beside his fire and fanning its flames, I was told that my black-box-with-a-glass-eye-on-three-legs would not work if I attempted to make that particular image. I said that I was also a rucu, and that the magic of my black box was good. Then I pressed the shutter lever and the mechanism jammed.

It was the only time during the shooting of more than a hundred magazines of film that even the slightest thing went wrong with any part of the motion-picture equipment. It was odd that that particular time happened to be when a brujo told me I should not make an image of him at that moment . . .

Other things happened which, away from the bush, seem small and insignificant and easily explained. But when I was in the jungle and talking and working there with the witch-men it seemed easy to believe some of the things they told me . . . that Supay, the jungle's only evil genius, was making a final struggle against the laying bare to a white stranger of their secrets. They told me that if I were to eat salt during the day before I attended any primitive curare making, bad luck would follow . . . the ollas would break of themselves while the curare was being cooked, spilling the precious stuff on the ground; rains too violent to protect the fires from would come up quickly; the poison itself would not congeal and would ferment and spoil.

At one time or other, all those things happened, and happened so close together that for a while it was extremely difficult to get fairly started in the production of the various

batches of different kinds of curare which I had to have. Upon four separate occasions, the great clay cooking pots opened up over the fires, halfway along in the boiling, and spilled their contents into the ashes. The last time it happened I was able to save the curare, for I had come prepared to the hidden "cooking place," bringing several five-gallon case-oil cans. They had had food packed in them, and once emptied, had then been used around the camp as buckets.

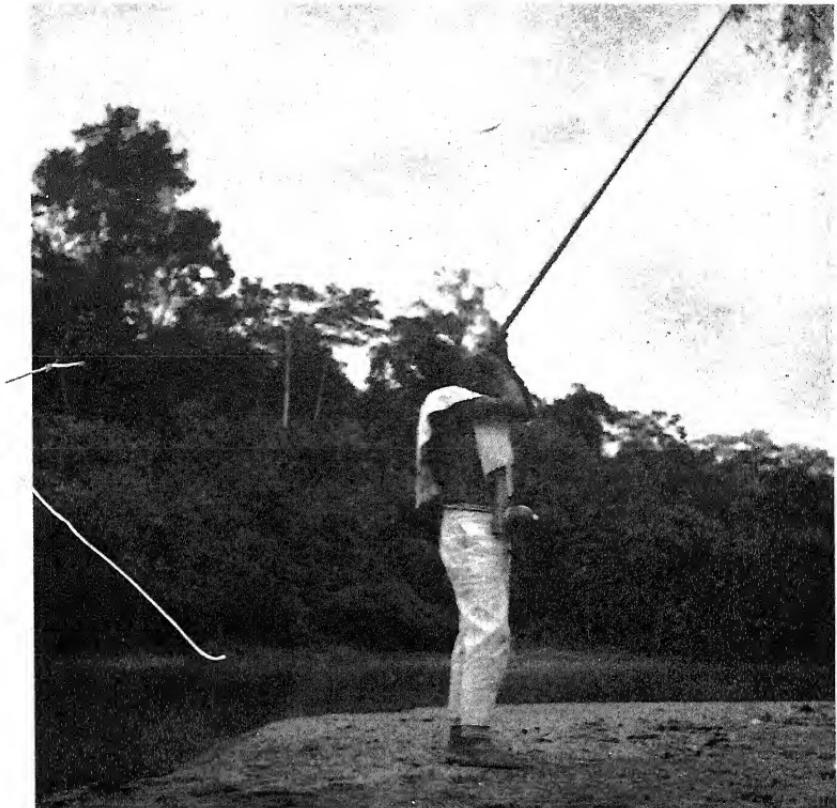
We hurriedly transferred the half-cooked curare from the broken jars to the large cans, and finished the boiling in them. At first the witchman in charge of making that particular batch was aghast at the idea. If the poison magic, he said, has broken the poison pots because you are here among us watching what we do, the poison will be weak and a woman-thing, in any event, whether you save it or not. But we did save it, and when we had finished with cooking, it turned out to be good curare.

The next time that particular brujo made curare for me, he came to me when all his materials had been gathered, and asked if he could borrow three of the cans. His face was wooden when he asked me, and he spoke gravely, "Their magic might be good again. If you are to be with me while I make the jambi, it is better that you bring them also."

Gradually the witchmen of the region came to believe that I was really an authentic colleague of theirs, had faithfully served my internship, and was, as far as a queer franzi could be, trustworthy to practice the gentle art of poison brewing along with them. Trustworthy, that is, as long as my cameras weren't actually in my hands. When they were, the brujos never failed to mumble their most virulent incantations at them, no matter how often they had gazed malevolently into the lens and had got back glassy stare for stare. I can understand why pictures of the actual making of primitive curare are extremely rare.

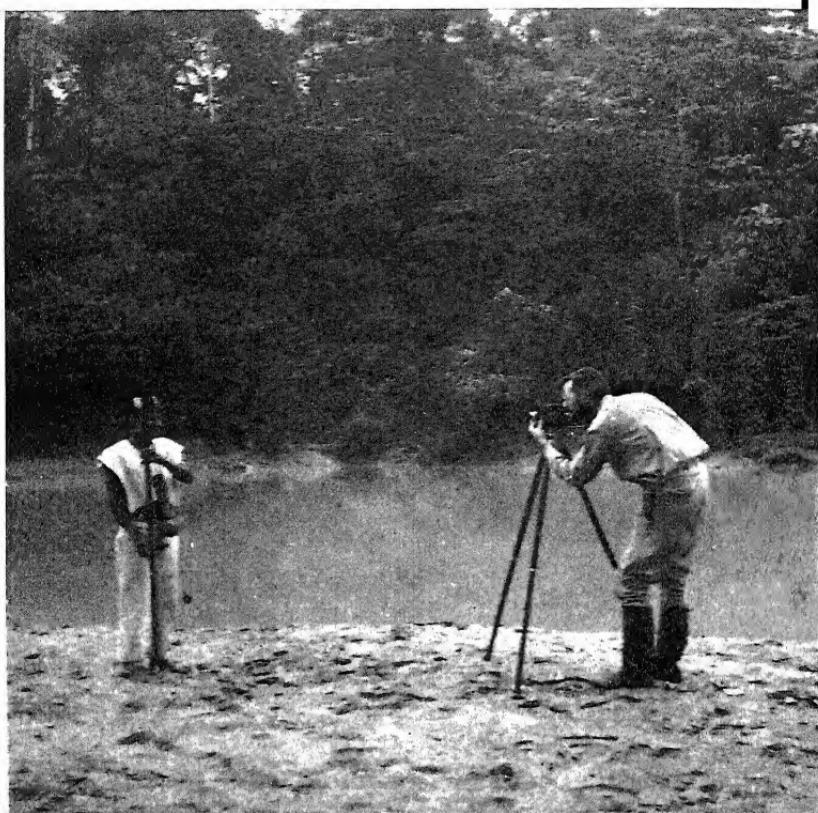


Really the only exception was a young witchman who (though even he objected strenuously to pictures of the actual curare making) quite entered into the spirit of the thing when I asked him to let me make his image-on-paper in the act of using his blowgun. It would be good, I told him, that his image travel back with me to my own people. After showing him some photographs of other Indians, I told him that so small an image would not weaken his soul, or make him ill. Rather, by traveling with me to my own far land, it would strengthen and refresh it. At the same time, I further offered his soul considerable tangible strengthening on the spot in the shape of an old hunting knife which he had been eying for several days. It was all too much for him, and he succumbed to both the questionable logic and the knife.



He arrayed himself in his best and gave a convincing exhibition of his almost unbelievable skill with the blowgun in front of both Rolleiflex and motion-picture cameras. Then, apparently wanting his image to look its best among my distant tribe, he advanced some logic of his own. He demanded that, since he had just shown both black boxes together how he used the blowgun, one of them should then take a picture of him, me, and the other black box all at once . . . so that neither black box would ever forget what it saw. His reasoning sounded as dubious to me, I suspect, as mine must have to him, but I arranged to do as he requested.

After that picture had been taken, he thought in silence for a long minute and looked steadily at the Rolleiflex, the machine which had just taken us together with the other black box. Then he asked me to hold it steadily in front of



me as if I were going to make another image of him. Feeling that I had turned him into a camera addict, I pointed the lens at his face and—hardly guessing what was coming—focused on him. He immediately started talking directly into the lens and made the camera quite a speech. He explained to it with gestures, patiently and in great detail, that he, Emilio Huasi, had shown it what it means to be a proved man who is skillful with his blowgun . . . that he had blown many arrows for it to see . . . that he had entrusted it with the making of his image.

Then he told it, at length, how the blowgun should be held and aimed and how the breath should blow the darts. He put his finger between his lips and blew at the camera to make sure it understood. He stopped talking for a moment and thought again. Finally he wound up with a heated ap-



peal to whatever thought-magic he imagined lay behind the Rolly's lens, and, in general, to the camera's higher nature. It must not, he insisted, ever forget him or what he had taught it about the blowgun. It must not—he pointed at it as I snapped him again—ever confuse his image with the images it had taken of others. Those were his words—he, Emilio Huasi.

I put the camera back in its case. Then when I felt that I could speak to him as unsmilingly as was necessary, I told him that I would see to it that his image would never be confused with that of any other person. It hasn't been. Both the camera and I have seen to it. . . .

But what I believe really put an end to the series of witchcraft coincidences was the incident of the bewitched baby, the peppermint Life-Saver, and the white man's magic medicine. Certainly it finally convinced the most die-hard and orthodox of the jungle practitioners that I had the curare magic fairly well in hand, that I had somehow put Supay behind me, and that if I wanted the last secrets of curare making and curare ingredients in return for my trade goods . . . I might as well have them.

About a month after the base camp had been established—and just when I was commencing to wonder whether Supay or I should finally win out—one of the Indians with whom I had contracted for a batch of curare came to me and was plainly worried. Yasacama was a young witchman trained in the black arts of the jungle by his recently dead father. (I always liked to think of him as being a son-of-a-witch.) He was fairly young, the head of a small clan, and, although he had always doubted the propriety of turning over his curare secrets to me, he liked me as well as he could like any white man . . . and also greatly needed some of my trade goods for his women.

This time when he visited me he had just finished collecting a large amount of curare ingredients and had, in fact, already arranged his jungle-hidden "kitchen" with all its necessary paraphernalia. Knowing that he was ready to begin the ritual of cooking, I was vaguely worried when he came to me and sat, silently frowning, for a long time on the split-bamboo floor of the field office. I knew that if he—or any established curare maker—flatly refused to make more of the poison for me after the "coincidences," all curare research in the entire region would come to a sudden and fateful end . . . possibly for years.

"My heart burns low"—he looked woodenly at me—"but I can make no jambi for you. I cannot continue the sacrifice

or do the cooking until six moons have gone across the hills.” He slowly traced the course of the moon across the river valley.

“Your words are heavy, friend,” I said. “Why is this?”

“My woman . . .” he said and stopped. He sat for a while and fingered his iguana-skin bracelets while I waited for him.

After another minute, he went on and told me why he couldn’t make curare for me. While he talked, I thought quickly, for I knew that if I could not somehow get around his superstitious excuse and make him continue his cooking, every other witchman in the region would beg off from the work for similar reasons.

His woman, he continued, had just the night before given birth to a fine man-child. And it was part of the teachings of his fathers, and their fathers, that the child would sicken and die if he had anything to do with the making of jambi before at least six moons had gone across the hills. It might even be better to wait for more moons. But, before six moons . . . ! The man-child was strong and healthy, and all the rest of the hua-huas his woman had given him were girl babies. With a girl baby the matter might not have been so serious. But with a stout *cari-huambra* . . . and his first man-child . . . No, his heart burned low, and his words were heavy within him. He could not make my jambi . . . or even show me what I wanted to know about the making of it.

He would, he said, return to me those goods which I had given him in payment. He was sorry. He, Yasacama, made the best jambi for many days of travel up and down the river. . . .

I sat down beside him and, giving him a cigarette, smoked with him in silence. I already had an idea, but I knew it would be better to wait a little before I answered the words he had made with me.

Once, I remembered, some years ago in southern Peru, I was supervising the excavation of a mummy. With a series of others, it had lain for centuries in a clay-walled niche halfway up a steep cliff about a hundred feet high. Two sierra Indians had lowered themselves over the face of the cliff with stout ropes to remove the sun-baked clay facing from the burial niche and lift out the mummy for me. My companion and I were seated on the lower opposite wall of the narrow ravine watching the men and occasionally shouting instructions.

Suddenly, just as the two Indians were about to open the niche, they looked at each other and, apparently with no words between them, climbed up the ropes to the top of the cliff. Then clambering down their side of the ravine and up my side, they came to where I was sitting.

We cannot, they told me, take out the Old One who is over there. They pointed across the ravine to the burial niches. If we should, they said, evil spirits would go down our throats as soon as we touched him, and we should surely sicken and die. It is better that we return to our families. . .

I thought for a moment, and then, reaching into my coat pocket, brought out the little brilliantly printed box of throat lozenges which I always carried with me in the high dry air of the sierra. I gave one to each of the Indians, and told them it was a white man's medicine so powerful and so full of a certain magic that no spirits from any long-buried Old One could go down their throats and make them ill.

Because they believed me, or possibly because they liked the cooling menthol flavor of the lozenges, they returned to their work and excavated the mummy. It turned out to be an excellent specimen, and, when I last saw it some years ago, was still in the Museum of Cuzco. Also, no evil spirits went down the throats of the Indians and sickened them. The white man's medicine was good.

Remembering that, I turned to Yasacama and, offering him another cigarette, made my words with him.

For many moons before this time among you, I told him, your people have known of me and of my words. My words among you have always been good, I think. As yet not one of you has told me that my heart is on the wrong side, or that my words are false, or that the goods I offer you are poor in quality. The knives I bring you do not bend at the first cut; the cloth I bring you wears well upon you and upon your women; and my thought-magic also is true. . . .

It was the sort of talk an Indian likes to hear, and likes to make himself. Yasacama listened carefully, and spat several times between his fingers. As long as he did that, I knew I was all right.

Then I handed him a peppermint Life-Saver (it is the nearest approach to candy which will not go to pieces in the rain forests) and told him that if he would put that in his mouth as soon as he lit his cooking fires the magic of the jambi could not possibly harm his man-child.

He looked at the round white mint for a moment . . . then he rose abruptly and said that he would make the jambi, and use my magic, and that I should come to his cooking place early the next morning. As he was leaving, he looked directly at me and said, "But, friend, it will not be good if my man-child travels in the Death Canoe. . . ." Then he left.

I knew that it would not be good. I knew that if the Indian baby died by any weird chance while Yasacama brewed the flying death, it might also not be good for many other hua-huas, not Indians, who lived in my own land, and who needed curare.

Life-Saver in his mouth, Yasacama lit his cooking fires early the next morning, and I sat beside him, making notes of his ingredients, their weights, and all that he did with

them. But the cooking was hardly started before one of his younger brothers came gliding into the little clearing and whispered to him. Then he left as quickly as he had come, and Yasacama looked across the simmering ollas at me.

"My brother tells me," he said slowly, "that my man-child has sickened. It is the magic of the jambi, for he was strong and well before I lit these fires. But I have the taste of your magic still in my mouth, and I shall continue to make the poison for you. But it will not be good for you if my man-child dies."

I gave him another mint, and said nothing. But I knew what would happen if the baby died. His words were true when he said that it wouldn't be good. . . .

Several times a day during the cooking of the batch, Yasacama's brother reported to him about the baby. For every black magic reason in the jungle, Yasacama himself could not visit his house until the poison was finished . . . or unless the baby died. Each time his brother came the report was always the same. The man-child was still sick . . . sicker . . .

Meanwhile I sent Manuel, with whatever gifts he thought best, to visit the child and its mother. There was nothing he could do. The child was barely alive, and he did not know what caused its illness. "Señor," he said to me on the last day of the curare making, "it is part of the jungle . . . when you are an Indian and believe in the magic of the jambi . . ."

At the end of the third day the curare came to its "point" and, still saying nothing, Yasacama poured it into the brown sun-cured gourd he had ready for it. When he was just about to deliver it to me, his brother came into the clearing again, and once more whispered to him. As always, he left as quickly as he came and without looking at me.

Then Yasacama spoke, for the first time in a long while.



There was no expression in his face, and he might have been about to say anything.

He handed me the gourd of curare, which was still hot, and said, "Your magic has been good. My man-child is not sick now. He will live. It is not according to the words of my fathers that any magic is stronger than the jambi. Now I have learned a new thing. Your magic and your words are good. Also, I like the taste of your magic in my mouth. . . ."

When Yasacama had told his people that I had not let the magic of the flying death kill his man-child, and when his people had carried the story throughout all the region in which I was working, there was no more trouble with the witchmen. I returned from there with more curare, and more different kinds of curare, than anyone had been able to do before.

Chapter Twenty-one

Men in White

Sixteen floors below me, as I write this, children are playing in the pebbled green of quiet Gramercy Park—*Hua-hua-tambu*, the Indians might call it, place-where-the-children-rest. The children are nimble, strong-playing, and seem safe within the high iron fence. Also far removed from the jungles of the Amazon.

But their safety makes me remember the less nimble, less strong-playing children I had come to know of recently in Boston, in New York, in Omaha, and in the hospitals of other cities. These other children, and adults too, were sick with one of the several forms of spastic paralysis. Some lay quietly contorted; others lay in a state of constant motion . . . that spasmodic tremor which often keeps a body in tortured motion year after year.

Then I think of curare, the now not-so-mysterious arrow poison which is finally proving its value in the dramatic treatment of spasticity. It will relieve the muscle spasms which give rise to those contortions and those jerky, wearing tremors. It will, that is, now that we can get enough curare of the right kind. Not the kind the jungle brujos make primitives, but an unadulterated syrupy infusion, made only from certain jungle plant groups . . . not a smoke-streaked

gourd of black, gummy paste, but a small sterile ampul of amber-colored liquid biologically standardized and prepared with the unfailing precision of a great modern laboratory.

Curare is helping make true the miraculous possibilities of metrazol and other kinds of convulsive shock therapy in the treatment—occasionally even cure—of those mind-lost people who are victims of schizophrenia (*dementia praecox*) and manic-depressive states, especially involutional melancholia—forms of mental imbalance which, among civilized peoples, are the most widespread and tragically hopeless.

And before me on the desk is an Indian-made clay jar, about the size of a small teacup, painted light brown. It contains a dark—almost black—gummy substance, which has a pungent, tarry smell . . . and the last few months drop from me with the quickness of thought.

Suddenly . . .

The base camp and the many-sided work has come to an end. The collection, the notes, the bulky presses of botanicals, all the equipment has finally been packed and loaded into the waiting canoes.

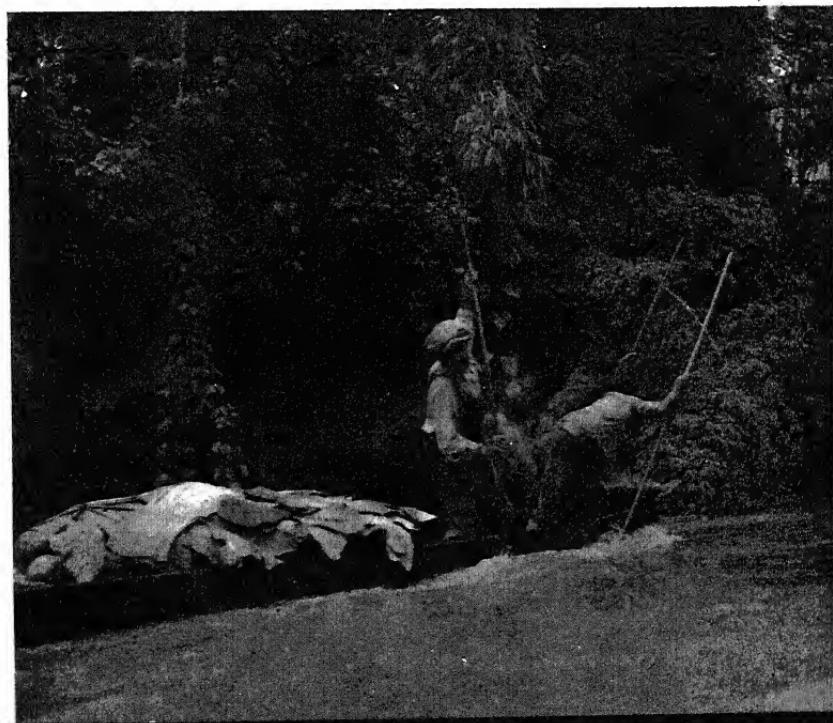
Yesterday we made a present of the camp buildings to our friendly neighbors. They accepted with warm pleasure, and now they look about them with impatient curiosity to see if there is anything of value among the inevitable debris of our leaving. I do not know what they will use the camp buildings for, since their own permanent clanhouses are better for them, and more to their liking. At least for a while, until the buildings go back into the jungle, they can store their yucca on the drying shelves for botanicals, and their children can play from one building to another, shouting between the bamboo partitions, and saying the things Indian children might about the palm-thatched casita which has the lovely view of the river. . . .

There are many Indians standing on the wide curving beach as we leave. They have brought us gifts of fruit and other foods for the long upriver trip. A few have even brought us eggs, and are very proud of them. Today no one says "Maná luluncun." Today there *are* eggs.

We are late starting and, by the time the cargo canoes have left and our own canoes are ready, it is midmorning. The sun is shining down hotly on the white beach, and there are none of the soft, rolling, cottony clouds in the sky. That is a good sign, for, although the rains are just about to begin, we know we shall still have a few days of good weather for the start of our trip.

The Indians crowd close and tell us that they are glad we have been among them and that they will be glad when we come among them again. Beyond that they don't say a great deal, for they are suddenly shy. Now that we are packed and leaving, they see us again as we were when we first came among them.

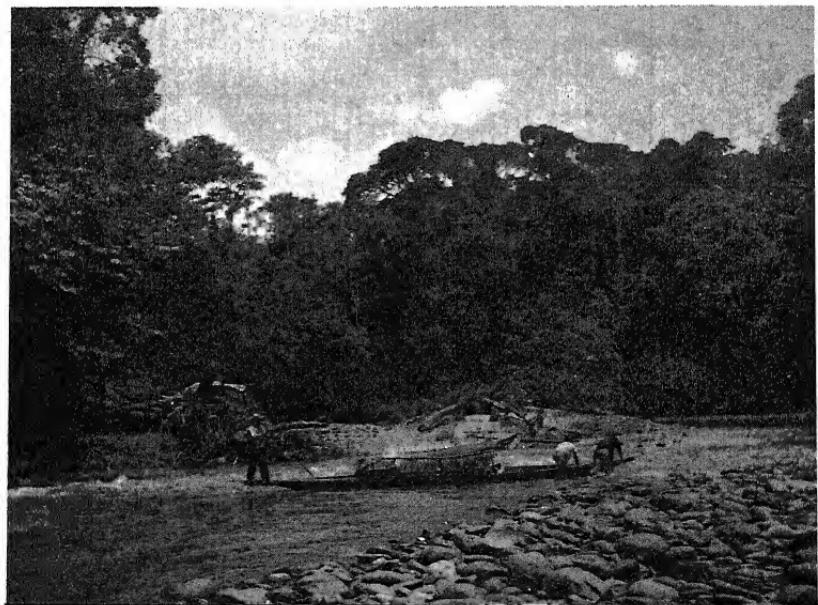
But until we are poled slowly around the first upriver



bend, we can see them all, still standing in the bright sunlight of the beach, their arms held high. They are wishing us well. Then, even as we look at each other, and feel the sorrow and the thrill we knew we should feel when we left them, the canoe rocks violently. The bogas drop over the side shouting at each other as they push the canoes through the shallow white water of the first rapids.

Then, for a little while, we forget about the Indians. Instead, we wonder if the spray will wet the presses in the cargo canoes, and where we shall camp that night, and if three weeks or so from now Julio, the arriero, will have mules and horses ready for us in the little village at the end of the animal trail. We also commence to think about hot showers, and other kinds of clothes, and certain kinds of foods. It seems a long way outside, toward the high Andes . . . the western-mountains-that-touch-the-sky-our-fathers-say.

Only two days after Julio had met us in the little town and had asked me if I couldn't trust him and Manuel with the cargo and go on to the ranch ahead of him, we had the hot showers and the other kinds of clothes. For the first time in weeks, we ate meat which we hadn't shot or taken out of





a can, and drank fresh milk, and had all the eggs we wanted . . . and greatly missed, very suddenly, the white waters and the black magic.

We had finally come out of the bush with all but one of our objectives attained* . . . and a pleasingly low number of casualties: two cases of atypical dengue fever; three non-fatal cases of snakebite, of which only one was serious; a

* Of all the drug objectives attained, curare is, of course, the most important. The others, however, are having their fair share of success in the investigations now being carried on. The clinical evidence established so far for Avelina Rosada shows that the jungle folk were not only right in what they said it would do, but their primitive claims were made with their usual restraint and understatement. The leche de ojo and various of the other drugs have also withstood—or are withstanding—the cold searchlight scrutiny of the laboratories. The kind of *lonchocarpus* we brought back (the fish-killing root used in various kinds of insecticides) is the kind we hoped it would be, with an unusually high content of rotenone and other necessary active principles. Indeed, the results of our field surveys show that we had the luck to run into a supply of that most valuable of the *lonchocarpus* varieties ample to start immediate large-scale production.

couple cases of sauba ant stings; a scorpion sting (my share); and the usual assortment of minor cuts, burns, bruises, and tummyaches, the latter occurring consistently among the campboys.

The details of the packing and the carrying out to civilization of the collection were occasionally heartbreaking, and always tedious. Some losses occurred during the eternal struggle to keep all the cargo intact—and absolutely dry—against whatever odds the jungle pitted against us: the upstream battling against the newly rain-flooded rivers, the interminable portaging around the rapids. But the entire collection got through in safety. It was only the radio, a case of fragile pottery, and some nonessentials that we finally left swirling along the bottom of one of the rapids, after one of the canoes had split open its entire length against a rock. They were things that did not matter a great deal at the end of the trip.

What *did* matter were the bulging wooden-framed presses, the rows of carefully labeled cans which held the curare batches, and the straw-packed cases with the scores of sample bottles. They were the tangible essence of the witchcraft and magic of the jungle. As we repacked them at the ranch (this time for travel by truck and train and steamer) we were relaxed and happy in our weariness, and in our knowledge that they were all we wanted of the jungle for a while. That the rest of the jungle—from which we needed a change—lay behind us. . . .

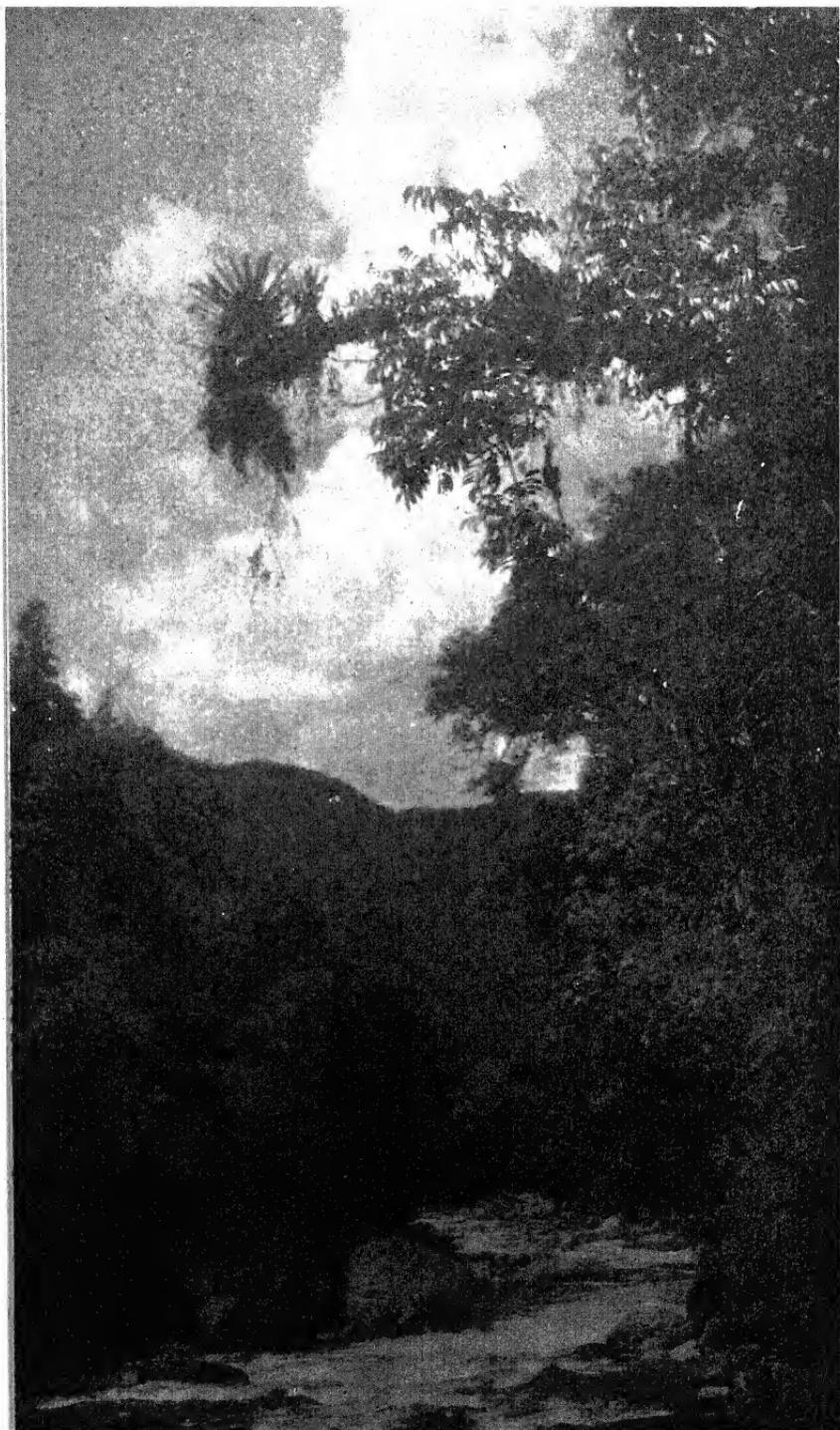
But when I opened the last specimen case, one night by myself in the candlelit ranch office, I suddenly saw that I had not left quite all of the jungle behind me. A pitalala snake—the deadliest in all the region where we had been working—was hidden in the straw packing. I still cannot imagine how it got in there, but when I pulled it out along with the straw from the box, its strike missed me by less

than I like to think about. It was, I think, the narrowest escape I have ever had. And if, because I was thinking the way you think when you are very tired, it seemed somehow like the last thrust of the jungle, I too made a last gesture at the bush. I killed it with the only weapon at hand—an old golf putter. . . .

A month later we were in New York.

Now, after months of identification and correlation, research and clinical trial by the wise witchmen of civilization, we know that the trip was good, that it was really functional exploring. With the ancient lore of the jungle brought nearer to the modern lore of the laboratories and hospitals, we know that part of the magic of the red man will also always be a part of the magic of the white man.

And since a great deal of the pioneering is over with, and much of the research, both academic and commercial, has been accomplished, it is time to return to the jungle and to rebuild the old ranch as a base for a permanent supply of curare and the other proved drugs . . . so that there will always be enough of the tamed flying death for the sick people who need it. It is time, too, that the old Chugo is retired into the newly cleared pastures, and a new Chugo take his place . . . that the soft sounds of a guitar come, at night, from the peon barracks . . . that, as the Spanish say, "there is peace upon my land."



Epilogue

T

he march of events, even since the writing of the first draft of this book, has been dramatic indeed. More progress has been made in the several phases of curare therapy during the past twelve months than during the previous eighty years since the famed arrow poison was given its first physiologic and therapeutic trials. So rapid and definitive has been this progress that, except for several very general mentions, I have found its inclusion in the main text of the book to be impossible. Even this summary will be, I hope, incomplete and obsolete after another year has carried the drug into still wider fields of usefulness.

Our trials were not at an end even after the expedition succeeded in bringing the curare material back to this country. For some time it was discouragingly difficult to find a reputable pharmacal manufacturer who was willing to accept the new field evidence, and to pioneer the refinement and biologic standardization of the curare on anything approaching an adequate and ethically sound basis.

Finally the research department of E. R. Squibb and Sons was given the entire story in all its aspects. It was then that the brujería of the jungle underwent its coldest and most minute scrutiny by the brujos of the laboratory. Happily,

the House of Squibb thought well of it. With an almost unbelievable skill and accuracy of technique, they took the crude drug in hand and—with the pharmacological co-operation of the University of Nebraska's Dr. A. R. McIntyre—made it into a product ready for primary presentation to the medical profession.

During the same period (and even for some time before the co-operation of the Squibb research laboratories) a large amount of the crude drug was distributed gratuitously to certain physicians and clinics who were willing to further the investigational work from the very start. Among them were some of the country's outstanding specialists: Drs. Eugene Barrera, A. E. Bennett, Walter Freeman, A. R. McIntyre, Tracy Putnam and Paul Hoeffer, M. E. Pusitz, and others who were willing to devote extracurricular time and energy to the opening of new medical fields.

Of these men's work, Dr. Bennett's is outstanding. Through his vision and genius, it not only embraces nearly all of the several kinds of curare's present usefulness, but it has suddenly created a new therapeutic field for the drug, which is possibly of even greater medical and social importance than that of spastic paralysis . . . our original curare goal.

These serious and incapacitating illnesses which can be grouped, however loosely, under the general heading of spastic paralysis* have an even higher incidence in this country than the several manifestations of infantile paralysis. Although accurate statistics are not available owing to the enforced seclusion of the usually utterly helpless victims of

* The term "spasticity" as here employed is meant to imply a state of muscular hyperinnervation symptomatic of those neural disorders (no matter what their etiology) which include the cerebral palsy (infantile and senile), spasmodic torticollis, dystonia musculorum deformans, Little's disease, athetoid disorders, certain manifestations of Parkinsonism, certain stages of multiple sclerosis, and allied entities characterized by hypertonia (muscle rigidity), tremor, and involuntary motility.

spasticity, it has been estimated reliably that there are about two hundred thousand cases in the United States alone. The temporary release of muscle spasm and rigidity, and the general relaxation of the patient after a stabilizing injection of curare, is dramatic in the extreme, and the use of the drug can be kept up indefinitely without harm. While it is not curative, its relaxing effect renders the patient amenable to the various phases of muscle re-education. It is more than merely thrilling to witness what one physician has described: "Children unable to talk intelligibly or to write their names or feed themselves become relaxed under the influence of the drug so as to be able to talk, write, and carry out co-ordinated movements of their limbs." From the physician's point of view it affords symptomatic relief and a return to a state of normality—and near normality—for thousands.

But even more dramatic is Dr. Bennett's pioneer work in the making safe of convulsive shock therapy in the treatment and cure of schizophrenia (*dementia praecox*), the manic-depressive psychoses, and especially that form of depression known as involutional melancholia. Of this I spoke a few pages back, but the point will bear repetition. These forms of mental imbalance occur in our civilization even more widely than the cases of spastic paralysis; they run into the hundreds of thousands—seemingly a manifestation of our modern mechanized, hectic mode of living. The majority of their victims are young or just approaching early middle age.

Where convulsive shock therapy has been used in the treatment of these individuals, the terminal mental results obtained by most workers have been excellent. But the severity of the convulsions produced by the actual treatment has all too frequently resulted in physical disaster . . . fractures of the extremities, even spinal fractures in a considerable percentage of the cases treated. In fact, this terrific "un-

"cushioned" shock treatment has built up a natural fear in the already tortured minds of so many patients that the entire treatment stood, until recently, in danger of being abandoned.

But even as lay articles were published condemning it—and scientific articles were written in favor of abandoning it—the "cushion" necessary to soften the violence of the convulsions was suddenly found by Dr. Bennett in those same powerfully relaxing effects of curare which he had just been noting in his treatment of various spastic states. The terrifyingly severe seizures in shock therapy have been softened—nearly entirely eliminated—without in the least minimizing the beneficial effects of the treatment. This new, seemingly miraculous "shock absorber" effect of curare, when combined with metrazol shock therapy, has recently been demonstrated with entire success in several leading psychiatric institutions. It is, as those who have witnessed it say, one of the most startling advances in psychiatric treatment and a discovery—considering the afflicted thousands—of profound humanitarian and economic importance.

Now that curare—no longer only the flying death of the witchmen—is a handmaiden of modern medicine, with seemingly limitless possibilities within certain fields, I have frequently been asked how the drug has been brought to the attention of the medical profession so as to obtain the startling results of the past few months. As for my own part of the work—the field work which somehow bridged the gap between the rain forests and the hospitals—I suspect that the words "functional correlation" are as good an answer as any. Certainly, if field work could be said to have a watchword or a slogan, they have been mine.

Correlation was the motivating principle on which all the jungle drug work was done, and it still is the basis for any

additional ferreting out of the pharmacal witchcraft secrets of the bush.

Functional exploring—in the sense of making primitive findings practically usable in the modern world—is a fairly large order. In its endeavor to bring the jungle to the laboratories and the hospitals, it has to bridge one of the world's widest socioeconomic gaps; in our instance, it has to connect the lore of the remote wilderness with ultramodern pharmacal and clinical procedure. It must, without disturbing their own fixed routines, bring together the witchcraft of the Amazon and the witchcraft of science . . . and evolve out of that seeming mésalliance new and useful drugs of benefit to mankind at large.

Curiously enough, it is not a job for a single specialist. Rather, it can be achieved only by the general correlation of many specialized aspects of the work. It is based on an instinct for inductive procedure . . . for the formulation of a previously unknown general rule from the piecing together of painfully accumulated facts. In other words, it is the correlation of a large number of bits of minor evidence in such a way as to form a complete picture of what *should* happen . . . and then somehow make it happen.

That has always been a basically good procedure for any kind of expeditionary field work and notably in archaeology. The discovery of King Tutankhamen's tomb in Egypt and Senator Hiram Bingham's unearthing of the lost city of Machu-Picchu in southern Peru are excellent examples of inductive field research.

Although this procedure applies to all our drug objectives, it really finds its neatest example in curare. Before it becomes functional, the flying death seems to make the longest jump of all . . . from the bubbling caldrons of the巫men to the biologically standardized sterile ampuls of the physicians. Previously no one had ever really woven together all

the scattered bits of specialized curare knowledge to make a unified whole. That, I felt, was my job: to provide both the materials and the stimulus for the men who have special knowledge; to make curare "functional" after the past few decades of too-circumscribed research which lacked merely a background of correlation of evidence.

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